

# UNITED STATES SPECIAL OPERATIONS COMMAND



## FISCAL YEAR 1997 BUDGET ESTIMATES

RDT&E, DEFENSEWIDE

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MARCH 1996

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UNITED STATES SPECIAL OPERATIONS COMMAND  
RESEARCH, DEVELOPMENT, TEST AND EVALUATION, DEFENSEWIDE

OVERVIEW

The United States Special Operations Command (USSOCOM) is a unified command with worldwide responsibilities to train, equip and maintain Special Operations Forces (SOF) in a ready state in support of the contingency plans developed by the five regionally oriented unified commands (USEUCOM, USCENCOM, USPACOM, USACOM, and USSOUTHCOM). When directed by the President, USCINCSOC will assume command of a special operation anywhere in the world. USSOCOM's Army component forces include special forces (Green Berets), Rangers, short to medium range infiltration/exfiltration aircraft, civil affairs specialists, and psychological operations specialists. Navy component forces consist of Sea, Air, & Land (SEAL) Teams and special boat units. The Air Force component forces consist of special operation units which provide medium to long range air infiltration/exfiltration aircraft, specially equipped gunships, and aerial refueling capability. USSOCOM is the only operational command directly responsible for determining its own force structure requirement, determining the related materiel requirements, procuring the SOF unique equipment, training, and deploying its own units.

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RDT&E DOCUMENTATION FOR FY 1997 AMENDED BUDGET ESTIMATES

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PROGRAM ELEMENT COMPARISON SUMMARY

INTRODUCTION AND EXPLANATION OF CONTENTS

1. General. This document has been prepared to provide summary information on the United States Special Operations Command Research, Development, Test and Evaluation Program to Congressional committees during the FY 1997 Amended President's Budget hearings. RDT&E documentation includes:

- Project Listing by Program Element (PE).
- Exhibit R-1, Special Operations Command RDT&E Program.
- Exhibit R-2, RDT&E Budget Item Justification Sheet. These exhibits have been prepared under the following guidelines: R-2, paragraph A, is submitted for RDT&E PEs; R-2, paragraphs A through F, are submitted for each PE project resourced in the FY 1997 budget year. Acquisition strategies are provided for non-technology projects that have a one-to-one relationship with an acquisition program and for sub-projects funded at \$1.0 million or more in the budget year.
- Exhibit R-3, RDT&E Program Element / Project Cost Breakdown. An R-3 is provided for each advanced development project.

2. Comparison of FY 1996 and FY 1997 Data. A direct comparison of FY 1996 and FY 1997 data in the R-1 exhibit dated February 1995 will reveal only minor differences. FY 1997 - FY 2001 program has been reduced by 8.5%.

3. Relationship of FY 1997 Budget Structure to the FY 1996/1997 President's Budget Submitted to Congress. There are no project-level new starts since submission of the February 1995 President's Budget. Effective FY 1997, funds for two projects, "P204 Explosive Ordnance Disposal-Low Intensity Conflict" and "P205 Special Operations / Low Intensity Conflict Studies", transition to an Office of the Secretary of Defense-managed PE 0603122D, "Counterterror Technical Support".

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4. Classification. This supplement is unclassified.
5. Table of Contents. The Table of Contents is presented with summary documentation (R-33, Project Listing, and R-1) followed by R-2s and R-3s in Program Element order.
6. Classified Programs. Information on classified programs, PE 1160408BB, SOF Operational Enhancements, is provided under separate cover.

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## PROJECT LISTING BY PROGRAM ELEMENT

(\$K, All Items in Budget Activity 7)

PROGRAM ELEMENT / PROJECTPE 1160279BB Small Business Innovative Research

S050 Small Business Innovative Research

FY95	FY96	FY97	FY98	FY99	FY00	FY01
2,806	0	0	0	0	0	0

PE 1160401BB Special Operations Technology Development

S100 Special Operations Technology Development

FY95	FY96	FY97	FY98	FY99	FY00	FY01
5,448	3,969	4,083	4,173	4,267	4,361	4,457

PE 1160402BB Special Operations Advanced Technology Development

P204 Explosive Ordnance Disposal - Low Intensity Conflict

FY95	FY96	FY97	FY98	FY99	FY00	FY01
4,307	4,137	0	0	0	0	0

P205 Special Operations / Low Intensity Conflict Studies

FY95	FY96	FY97	FY98	FY99	FY00	FY01
1,436	993	0	0	0	0	0

S200 Special Operations Special Technology

FY95	FY96	FY97	FY98	FY99	FY00	FY01
7,149	9,985	7,927	8,105	8,287	8,469	8,657

PE 1160404BB Special Operations Tactical Systems Development

D476 PSYOP Advanced Development

FY95	FY96	FY97	FY98	FY99	FY00	FY01
3,647	492	484	1,436	14,251	769	0

D615 SOF Aviation

FY95	FY96	FY97	FY98	FY99	FY00	FY01
0	3,426	1,163	1,340	28,419	12,063	935

SF100 Aviation Systems Advanced Development

FY95	FY96	FY97	FY98	FY99	FY00	FY01
10,829	6,488	4,006	5,746	11,660	16,866	29,921

S0417 Underwater Systems Advanced Development

FY95	FY96	FY97	FY98	FY99	FY00	FY01
32,574	30,863	18,993	11,921	4,473	4,479	4,765

S1684 SOF Surface Craft Advanced Development

FY95	FY96	FY97	FY98	FY99	FY00	FY01
3,520	9,189	2,960	3,541	2,488	5,948	678

3284 SOF Aircraft Defensive Systems

FY95	FY96	FY97	FY98	FY99	FY00	FY01
29,339	12,109	6,567	7,879	3,990	13,274	11,048

3326 AC-130U

FY95	FY96	FY97	FY98	FY99	FY00	FY01
2,186	6,124	14,563	6,327	1,668	1,395	1,384

3642 Aircrew Training System

FY95	FY96	FY97	FY98	FY99	FY00	FY01
40,624	18,034	4,339	243	238	0	0

S350 Special Operations Forces Planning and Rehearsal System

FY95	FY96	FY97	FY98	FY99	FY00	FY01
2,557	9,456	7,439	5,656	4,092	3,824	3,559

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**PROJECT LISTING BY PROGRAM ELEMENT**  
(\$K, All Items in Budget Activity 7)

**PROGRAM ELEMENT / PROJECT**

S375 Weapons and Support Systems Advanced Development

FY95	FY96	FY97	FY98	FY99	FY00	FY01
0	150	1,986	2,204	1,760	3,453	2,543

S600 Future SOF Aircraft

0	0	0	446	12,050	20,273	46,311
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S625 SOF Training Systems

0	2,437	9,759	11,985	8,103	9,333	1,871
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S675 Sustainment Engineering

11,905	0	0	0	0	0	0
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S700 Communications Advanced Development

4,138	1,457	2,648	2,064	3,421	2,487	4,113
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S800 Munitions Advanced Development

11,458	7,639	9,016	3,212	2,740	9,775	11,918
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S900 Miscellaneous Equipment Advanced Development

85	60	0	0	0	0	0
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**PE 1160405BB Special Operations Intelligence Systems Development**

S400 SOF Intelligence

3,987	2,843	1,315	4,996	2,446	2,626	3,392
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**PE 1160407BB SOF Medical Technology Development**

S275 SOF Medical Technology R&amp;D

1,663	1,814	1,887	2,035	2,087	2,139	2,192
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**PE 1160408BB SOF Operational Enhancements**

S500A Operational Enhancements

20,060	16,156	23,216	18,584	22,031	22,151	22,848
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TOTAL:

199,718	147,821	122,351	101,893	138,471	143,685	160,592
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## SPECIAL OPERATIONS COMMAND RDT&amp;E PROGRAM

Appropriation: 0400 D Research Development Test & Evaluation DefensewideThousands of Dollars

<u>Program Element #</u>	<u>Title</u>	<u>Budget Activity</u>	<u>FY 1995</u>	<u>FY 1996</u>	<u>FY 1997</u>
1160279BB	Small Business Innovative Research (U)	7	2,806	0	0
1160401BB	Special Operations Technology Development (U)	7	5,448	3,969	4,083
1160402BB	Special Operations Advanced Technology Development (U)	7	12,892	15,115	7,927
1160404BB	Special Operations Tactical Systems Development (U)	7	152,862	107,924	83,923
1160405BB	Special Operations Intelligence Systems Development (U)	7	3,987	2,843	1,315
1160407BB	SOF Medical Technology Development (U)	7	1,663	1,814	1,887
1160408BB	SOF Operational Enhancements (U)	7	<u>20,060</u>	<u>16,156</u>	<u>23,216</u>
	Total Operational Systems Development:		199,718	147,821	122,351
	Total Special Operations Command:		199,718	147,821	122,351

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Exhibit R-1

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE		MARCH 1996				
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE				PE 1160279BB Small Business Innovative Research				
COST (in millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost
PE 1160279BB (Small Business Innovative Research		2.806	0	0	0	0	0	0	0	6.755
S050, Small Business Innovative Research		2.806	0	0	0	0	0	0	0	6.755

A. Mission Description and Budget Item Justification

The Small Business Innovative Research (SBIR) project is a highly competitive three phase award system which provides qualified small business concerns with the opportunity to propose high quality innovative ideas that meet specific research and development needs of USSOCOM. SBIR is a result of the Small Business Development Act of 1992. It was enacted by Congress in Public Law 97-219, reenacted by Public Law 99-443, and reauthorized by the SBIR Program Reauthorization Act of 1992. Starting in FY 1994, the SBIR program was refocused towards dual use and defense reinvestment efforts. Phase I projects evaluate the scientific technical merit and feasibility of an idea. Awards are up to \$100,000 with a maximum six month period of performance. Phase II projects expand the results of, and further pursue, the developments of Phase I. Awards are up to \$750,000 with a maximum two year period of performance. Phase III is for commercialization of the results of Phase II and requires the use of private or non-SBIR federal funding. DoD publishes government agency proposal projects twice per year for a consolidated DoD Request for Proposal. USSOCOM then awards its proposed SBIR projects.



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE									MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE PE 1160401BB Special Operations Technology Development										
COST (in millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost		
PE 1160401BB (Special Operations Technology Development)		5.448	3.969	4.083	4.173	4.267	4.361	4.457	Cont.	Cont.		
S100, Special Operations Technology Development		5.448	3.969	4.083	4.173	4.267	4.361	4.457	Cont.	Cont.		

A. Mission Description and Budget Item Justification

Projects provide studies and laboratory prototypes for USSOCOM to link non-system basic research and exploratory development to Special Operations Forces (SOF) specific system engineering and manufacturing development and procurement. This project supports SOF, psychological and civil affairs forces involvement in foreign internal defense and world-wide operations. It also supports special operations forces conduct of special reconnaissance and direct action operations in low, mid, and high intensity conflict. A major objective of the SOF technology base program is to provide a balanced effort of studies and technology base funding across the exploratory research and advanced development categories in order to exploit technological developments of other organizations through aggressive resource leveraging. This resource leveraging (applying small incremental amounts of USSOCOM funding on top of significantly larger research investments by other DoD, government, and commercial organizations) will allow USCINCSOC to influence the direction of technology development or the schedule against which it is being pursued.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE										MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160401BB Special Operations Technology Development / Project S100											
COST (In Millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost			
S100, Special Operations Technology Development		5.448	3.969	4.083	4.173	4.267	4.361	4.457	Cont.	Cont.			

A. Mission Description and Budget Item Justification

This project provides studies and laboratory prototypes for exploratory and advanced development, as well as a means for leveraging other organizations' projects that may not otherwise be affordable within MFP-11. Applying small incremental amounts of investments to DoD, other government agencies, and commercial organizations allows United States Commander-in-Chief Special Operations Command to influence the direction of technology development or the schedule against which it is being pursued and to acquire emerging technology for Special Operations Forces (SOF). This program supports special reconnaissance, information warfare, unconventional warfare, direct action, foreign internal defense, psychological and civil affairs operations, and other SOF missions worldwide. This program provides an investment strategy for USSOCOM to link non-systems technology opportunities to USSOCOM technology development objectives and mission area analyses. Sub-projects include:

- AC-130U Munitions/Weapons Enhancements. Comprehensive study of various gun systems/munitions technologies for mid-term and long-range gunship applications to increase capabilities, especially increased standoff. Identifies platform constraints; performs systems analysis and trade-off studies; conducts technology risks assessments and influences/leverages Service efforts.
- Advanced Sniper Weapon Fire Control. Full wind vector ballistic solution at extended range (1200 meters).
- Audio Deception Emitter. Brassboard audio emitter to mimic low frequency audio emissions.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160401BB Special Operations Technology Development / Project S100		
<ul style="list-style-type: none"><li>● Battle Dress System. Development of various functional modules with the battle uniform.</li><li>● Diver Integral Magnetic Mine Detector. A magnetometer array to reduce the false alarm rate and increase the effectiveness of a swimmer using a hand-held sonar for very shallow water mine countermeasures.</li><li>● Head-Mounted Thermal Vision. Lightweight, low-volume, low-power thermal viewer providing a passive night/obscured vision capability using an uncooled focal plane array. This project leverages other government efforts.</li><li>● Improved Special Operations Forces (SOF) Power Sources. Study of existing and emerging high power density battery concepts and related power source technologies.</li><li>● Individual Operational Ration. An automated capability to structure rations to meet mission requirements.</li><li>● Limited Effects Weapons. Investigate and define SOF needs and deficiencies in alternate applications of less than lethal force applications in order to identify technologies for use by SOF.</li><li>● Man-Portable Non-Line-of-Sight Weapon System. A lightweight, low observable, extremely accurate weapon designed for clandestine interdiction at ranges up to 5 kilometers.</li><li>● Maximum Efficiency Language Training. Joint project with Army Research Institute and Advanced Research Projects Agency to demonstrate an advanced computer based virtual reality interactive language tutor.</li><li>● Pursuit Deterrent Munitions (PDM) Trainer. A PDM simulator for safe training.</li><li>● Signature Control Technologies. Enhance the ability of SOF to remain undetected.</li></ul>			

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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160401BB Special Operations Technology Development / Project S100		
<ul style="list-style-type: none"> <li>• SOF Enhanced Moldable Explosive Charge. An improved formulation, higher energy density replacement for C-4 explosive.</li> <li>• Target Marking Technologies. Tagging/marketing technologies for use by Special Operations Forces (SOF) to provide tracking and clandestine marking of targets.</li> <li>• Underwater Electromagnetic Designator. A low probability of intercept underwater magnetic beacon that can be adapted for communications or path marker.</li> </ul>			
FY 1995 ACCOMPLISHMENTS:			
<ul style="list-style-type: none"> <li>• (\$1,405K) Completed evaluation and transition of the AC-130U Munitions/Weapons Enhancements, the basic Battle Dress System, Advanced Sniper Weapon Fire Control System, and the Diver Integral Magnetic Mine Detector.</li> <li>• (\$665K) Completed development of the Individual Operational Ration, Man-Portable Non-Line-of-Sight Weapon System, SOF Enhanced Moldable Explosive Charge, and Underwater Electromagnetic Designator.</li> <li>• (\$1,100K) Continued development of Improved SOF Power Sources and Target Marking Technologies, and Pursuit Deterrent Munition Trainer.</li> <li>• Started development of the following new sub-projects: <ul style="list-style-type: none"> <li>• (\$1,611K) Signature Control Technologies. Technologies to enhance the ability of SOF to remain undetected.</li> <li>• (\$181K) Head Mounted Thermal Vision. Demonstrate an ultra-light, low-volume, low-power, helmet mounted thermal viewer utilizing an advanced infrared focal plane array. Project leverages other government efforts.</li> </ul> </li> </ul>			

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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160401BB Special Operations Technology Development / Project S100	
<ul style="list-style-type: none"> <li>• (\$57K) Maximum Efficiency Language Training. Demonstrate advanced system to improve automated language training process.</li> <li>• (\$429K) Future Force Applications Weapons Technologies. Conduct a Limited Effects Weapons study to determine technologies that provide Special Operations Forces (SOF) personnel with less lethal capabilities to precisely or temporarily disable selected targets. This will form the baseline for other government agencies' technology efforts to support SOF.</li> </ul>			
FY 1996 PLAN:			
<ul style="list-style-type: none"> <li>• (\$1,087K) Continue development of the Signature Control Technologies, Maximum Efficiency Language Training, Head-Mounted Thermal Vision, Pursuit Deterrent Munition Trainer, and Target Marking Technologies.</li> <li>• (\$152K) Audio Deception Emitter. Start brassboard prototypes that would provide spot and large area loudspeaker broadcast capability to influence target audiences with high quality audio deception.</li> <li>• (\$480K) Demonstrate technologies to remotely detect, characterize, and type classify mines, obstacles, and barriers found in the littoral warfare region.</li> <li>• (\$425K) Conduct Concept Exploration. Conduct studies to assess optimum gas turbine engine alternatives for SOF maritime craft and optimum operating characteristics of a vehicle-mounted, crew-served weapon system.</li> <li>• (\$1,825K) Classified Project.</li> </ul>			

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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160401BB Special Operations Technology Development / Project S100		
FY 1997 PLAN:			
<ul style="list-style-type: none"><li>• (\$1,392K) Special Operations Forces (SOF) Command, Control, Communications, Computer, and Intelligence (C4I) Technologies. Complete development and evaluation of the Head-Mounted Thermal Vision and Target Marking technologies. Leverage U.S. Navy advanced technology demonstration for Color Night Vision Fusion to develop a SOF brassboard prototype of infrared and low-light-level video using artificial color that incorporates SOF size, weight, and human factors requirements.</li><li>• (\$485K) SOF Mobility Technologies. Develop an Active Noise Cancellation system to reduce noise levels from and onboard SOF propeller aircraft.</li><li>• (\$535K) SOF Weapons Technologies. Develop a Safe Low Energy Detonator to provide SOF with a safe explosive initiation system that could withstand sudden impact or extreme heat.</li><li>• (\$365K) SOF Sustainment Technologies. Complete development and begin evaluation of the Maximum Efficiency Language Training prototype. Complete development and evaluation of the Audio Deception Emitter. Assess / study past and current efforts / technologies for Enhanced Thermal Protection to provide passive protection for SOF combat swimmers during underwater operations in cold water.</li><li>• (\$483K) Demonstrate technologies to remotely detect, characterize, and type classify mines, obstacles, and barriers found in littoral warfare region.</li><li>• (\$623K) Concept Exploration Studies. Conduct studies to analyses the optimum technology concept for an integrated sensor navigation system and a remote command detonation device in support of the Naval Special Warfare Mine Countermeasures Program.</li></ul>			



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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		MARCH 1996																									
R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160401BB Special Operations Technology Development / Project S100																											
<ul style="list-style-type: none"> <li>• (\$200K) Technology Development Exploitation. Exploit emerging technologies to meet critical Special Operations Forces (SOF) requirements and encourage industry and government lab participation in identifying enhancements to SOF in critical areas such as reducing size and weight, and improving the life of power supplies. Needs in these areas will be advertized to industry and government research and development agencies via broad area announcements, calls for white papers, and research and development conferences.</li> </ul>																											
ACQUISITION STRATEGY: NA																											
<p><u>B. Program Change Summary</u></p> <table> <tr> <td>Previous President's Budget</td> <td>FY95</td> <td>FY96</td> <td>FY97</td> <td>Total Cost</td> </tr> <tr> <td>Appropriated Value</td> <td>5.511</td> <td>4.090</td> <td>6.554</td> <td>Cont.</td> </tr> <tr> <td>Adjustments to Appropriated Value / President's Budget</td> <td>5.560</td> <td>4.090</td> <td></td> <td></td> </tr> <tr> <td>Current Budget Submit</td> <td>(.112)</td> <td>(.121)</td> <td>(2.471)</td> <td></td> </tr> <tr> <td></td> <td>5.448</td> <td>3.969</td> <td>4.083</td> <td>Cont.</td> </tr> </table> <p>Change Summary Explanation:</p> <p>Funding: FY 1995 decrease is for Congressional reduction of Defensewide RDT&amp;E for travel, civilian pay and a directed Department of Energy reprogramming, and assessment to execute mandated programs. The FY 1996 decrease is for Congressional inflation adjustments and overhead / management savings. The FY 1997 decrease is to fund higher priority MFP-11 requirements and to meet fiscal guidance and for the repricing of budgets to reflect the Administration's revised economic assumptions forecast.</p>			Previous President's Budget	FY95	FY96	FY97	Total Cost	Appropriated Value	5.511	4.090	6.554	Cont.	Adjustments to Appropriated Value / President's Budget	5.560	4.090			Current Budget Submit	(.112)	(.121)	(2.471)			5.448	3.969	4.083	Cont.
Previous President's Budget	FY95	FY96	FY97	Total Cost																							
Appropriated Value	5.511	4.090	6.554	Cont.																							
Adjustments to Appropriated Value / President's Budget	5.560	4.090																									
Current Budget Submit	(.112)	(.121)	(2.471)																								
	5.448	3.969	4.083	Cont.																							

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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160401BB Special Operations Technology Development / Project S100
Schedule:	None.	
Technical:	None.	
C. <u>Other Program Funding Summary</u>	NA.	
D. <u>Schedule Profile</u>	NA.	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE										MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE PE 1160402BB Special Operations Advanced Technology Development											
COST (in millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost			
PE 1160402BB (Special Operations Advanced Tech Dev)		12.892	15.115	7.927	8.105	8.287	8.469	8.657	Cont.	Cont.			
P204, Explosive Ordnance Disposal - Low Intensity Conflict		4.307	4.137	0	0	0	0	0	0	21.495			
P205, Special Operations / Low Intensity Conflict Studies		1.436	.993	0	0	0	0	0	0	3.880			
S200, Special Operations Special Technology Development		7.149	9.985	7.927	8.105	8.287	8.469	8.657	Cont.	Cont.			

#### A. Mission Description and Budget Item Justification

Projects provide studies, technology demonstrations and rapid prototyping efforts to provide technology and prototypes to accelerate the acquisition of Special Operations Forces-peculiar equipment. Technology goals are generated annually by USSOCOM with input from components and regional Commanders-in-Chief.

Projects P204 and P205 transition to the USD-managed PE 0603122D, "Counterterror Technical Support", in FY 1997.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE		MARCH 1996									
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160402BB Special Operations Advanced Technology Development / Project S200											
COST (In Millions)				FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost	
S200, Special Operations Special Technology				7.149	9.985	7.927	8.105	8.287	8.469	8.657	Cont.	Cont.	

A. Mission Description and Budget Item Justification

Special Operations Special Technology (SOST) is an advanced technology development program capable of rapid development and evaluation of prototypes to apply emerging advanced technologies against Special Operations Forces (SOF) deficiencies. It also provides for SOF-peculiar advanced technology demonstrations. A SOST sub-project ends once the prototypes undergo user assessments in an operational environment and a transition package is prepared. A transition package assists in the initiation of or insertion into an acquisition program. The program also addresses projects that are a result of unique joint, special mission, or area-specific needs for which a few-of-a-kind prototypes must be developed on a rapid response basis, or are of sufficient time sensitivity to accelerate the prototyping effort of a normal acquisition program in any phase. Sub-projects include:

- Advanced Sniper Weapon Fire Control. Full wind vector ballistic solution at extended range (1200 meters).
- Structural Usage Monitor System. Demonstrate accurate flight regime algorithms to extend aircraft component lives.
- Clandestine Lighting Systems. Ground- and air-based lighting system(s) that operate at the Generation III maximum sensitivity line and focused to a tight beam.
- Communications Helmet. Lightweight, protective headgear with integrated communications for use by SOF during small boat, repelling, and parachute operations.
- Craft Identification Friend or Foe (IFF). Low-cost craft positioning system for incorporating situational awareness and IFF on

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE
MARCH 1996	
<p>APPROPRIATION / BUDGET ACTIVITY RDT&amp;E, DEFENSEWIDE / 7</p>	<p>R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160402BB Special Operations Advanced Technology Development / Project S200</p>
<p>Special Operations Forces (SOF) craft.</p> <ul style="list-style-type: none"> <li>Decompression Monitor. Time and depth monitor for use in SEAL Delivery Vehicle operations to extend the range of missions.</li> <li>Integrated Bridge System. A system that enhances maritime craft bridge-console and operator interface through human factors engineering and integration with console design and displays.</li> <li>Tactical Communications Management System. A drop-in wireless radio management system and intercom for use in SOF craft.</li> <li>Hasty Hide Shelter. Lightweight, weatherproof, "quick hide" shelter for SOF personnel providing protection from detection.</li> <li>Low Observable Demonstrations. Prototypes of emerging signature reduction and anti-detection technologies.</li> <li>Inter/Intra Team Low-Power Communications. Electro-optic and low probability intercept/low probability detect communication devices for SOF applications.</li> <li>Limited Effects Submunition. Project leverages Service efforts to provide less-than-lethal delivery capabilities onboard SOF aircraft.</li> <li>Psychological Operations Leaflet Payload. Leaflet delivery system to support psychological operations.</li> <li>Quick Erect Antenna. Improved antenna to reduce set-up time requirements in support of psychological operations.</li> <li>Remote Miniature Weather Station. Man-portable, air-drop capable weather sensors with a transmission system for terrestrial</li> </ul>	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		MARCH 1996
R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160402BB Special Operations Advanced Technology Development / Project S200		
<p>based unattended weather collection operations.</p> <ul style="list-style-type: none"> <li>• Special Operations Forces (SOF) Demolition Kit. Equipment to attach, initiate, and control military effects of explosives for SOF applications.</li> <li>• Special Operations Information Warfare Support System. Automated system for civil affairs and psychological operations information support.</li> <li>• SOF Enhanced Weapons. Weapons and munitions prototypes for increased range, improved accuracy, and improved performance against hardened targets.</li> <li>• Thermal Imaging Device. Eliminate bore sight problems in ground laser target designation missions.</li> <li>• Transport Cradles. Equipment to transport watercraft in military aircraft.</li> <li>• Very Slender Vessel Technologies. Demonstrate advanced technologies to minimize signature and wave-shock impact to personnel onboard SOF maritime craft.</li> <li>• Weapons Control System. Prototype providing improved accuracy for small arms mounted on SOF water craft.</li> </ul> <p>FY 1995 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> <li>• (\$689K) Completed evaluation and transitioned the Mobile Broadcast Extender Radio System, Craft Identification Friend or Foe, and SOF Demolition Kit.</li> <li>• (\$2,071K) Completed the Tactical Communications Management System, Low Observable Demonstrations, Transport Cradles,</li> </ul>		



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	MARCH 1996
R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160402BB Special Operations Advanced Technology Development / Project S200	
<p>Thermal Imaging Device, and Psychological Operations Leaflet Payload.</p> <ul style="list-style-type: none"> <li>• (\$2,708K) Continued development of the Advanced Sensors, Inter/Intra Team Low Power Communications, Special Operations Information Warfare Planning System, Communications Helmet, Decompression Monitor, Laser Defense, and Weapons Control System.</li> <li>• (\$412K) Began development of a miniature remote weather station.</li> <li>• (\$721K) Began technology demonstration of a lightweight outboard motor by integrating advanced materials.</li> <li>• (\$400K) Began development of enhanced Special Operations Forces (SOF) weapon and munition prototypes for increased range, improved accuracy, and improved performance against hardened targets.</li> <li>• (\$148K) Technology Exploitation Initiative. Exploited emerging technologies to meet critical SOF requirements and encourage industry and Government Lab participation in identifying enhancements to SOF in critical areas. Need in these areas have been advertised to government research and development agencies and industry via Broad Agency Announcements and research and development conferences.</li> </ul> <p>FY 1996 PLAN:</p> <ul style="list-style-type: none"> <li>• (\$375K) Complete evaluation and transition the Tactical Communications Management System, Laser Defense, Special Operations Information Warfare Support System, and Transport Cradles.</li> <li>• (\$4,673K) Continue efforts on the Advanced Sensors, Inter/Intra Team Low Power Communications, Decompression Monitor, Miniature Remote Weather Station, Improved SOF Power Sources, SOF Enhanced Weapons, Advanced Sniper Weapon Fire Control System (in project S100 prior to FY 1996), Communications Helmet, and Weapons Control System.</li> </ul>	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160402BB Special Operations Advanced Technology Development / Project S200		
		<ul style="list-style-type: none"><li>● (\$3,837K) Conduct advanced technology demonstrations in the following areas:<ul style="list-style-type: none"><li>● Special Operations Forces (SOF) Survival Sustainment and Personal Equipment. Specifically, a lightweight, low profile, Hasty Hide Shelter to provide SOF personnel with environmental and camouflage protection.</li><li>● Advanced Technologies for SOF Mobility Platforms. Specifically, technologies for Clandestine Lighting Systems to assist SOF aircraft with landings at night, technologies for an Integrated Bridge System to integrate current console functions onboard SOF watercraft while protecting the components and improving human factors, and Very Slender Vessel technologies to minimize SOF maritime craft' signature and the wave-shock impact to personnel onboard.</li><li>● Controlled-Effects Weapons Technologies. Specifically, leverage with Service efforts for a "Limited Effects" Submunition to provide less-than-lethal delivery capabilities onboard SOF aircraft.</li><li>● Advanced Technologies for Deception, Information Warfare. Specifically, technologies for a Quick Erect Antenna to reduce size and improve set-up time requirements of antenna in support of psychological operations transmissions.</li><li>● SOF Command, Control, Communications, Computer, and Intelligence (C4I) Technologies. Demonstrate millimeter wave technology to provide small, low power, clandestine, high data rate communications link for audio and video transmissions.</li></ul></li><li>● (\$450K) Leverage U.S. Army efforts to develop flight regime recognition algorithms with sufficient accuracy to allow replacement of fatigue critical aircraft components based upon actual aircraft usage versus predicted design usage.</li><li>● (\$650K) Classified project.</li></ul>	

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R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160402BB Special Operations Advanced Technology Development / Project S200		
<p>FY 1997 PLAN:</p> <ul style="list-style-type: none"> <li>• (\$1,175K) SOF C4I Technologies. Complete evaluation and transition of the Advanced Sensors and Inter/Intra Team Low Power Communications. Continue advanced technology demonstration of the Remote Weather Station. Complete development and begin evaluation of the Quick Erect Antenna.</li> <li>• (\$2,892) Special Operations Forces (SOF) Mobility Technologies. Complete user evaluation and transition the Clandestine Lighting System. Complete demonstration and begin user evaluation of the Integrated Bridge System and Very Slender Vessel technologies. Continue development of Structural Usage Monitor System. Demonstrate an Aircraft Off/On Load System to provide SOF with the capability to off/on load air-drop platforms or SOF-unique pallets without the use of material handling equipment.</li> <li>• (\$1,815K) SOF Weapons Technologies. Complete development and begin user evaluation of Weapons Control System, SOF Enhanced Weapons, and Advanced Sniper Weapon Fire Control. Leverage U.S. Air Force Sensor Hardening efforts to develop generic laser protection modules for SOF electro-optic devices.</li> <li>• (\$1,345K) SOF Sustainment Technologies. Complete user evaluation and begin transition of the Communications Helmet. Complete development and begin user evaluation of the Hasty Hide Shelter. Demonstrate an Intrusion Sensor System to provide the SOF operator with the capability to detect local threats. Demonstrate a Portable Oxygen Charging System to reduce the SOF logistics support required (while forward deployed) for underwater breathing apparatuses.</li> <li>• (\$500K) Technology Exploitation Initiative. Exploit emerging technology to meet critical Special Operations Forces (SOF) requirements and encourage industry and Government Lab participation in identifying enhancements to SOF in critical areas. Need in these areas have been advertised to industry and government research and development agencies via Broad Agency Announcements and research and development conferences.</li> </ul>		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
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R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160402BB Special Operations Advanced Technology Development / Project S200		
<ul style="list-style-type: none"> <li>• (\$200K) Classified project.</li> </ul>		
ACQUISITION STRATEGY: NA		
B. <u>Program Change Summary</u>		
Previous President's Budget		
Appropriated Value		
Adjustments to Appropriated Value / President's Budget		
Current Budget Submit		
Change Summary Explanation:		
Funding:	FY 1995 reduction is due to a Congressional cut of Defensewide RDT&E for travel, civilian pay and a directed Department of Energy reprogramming, and assessments for mandated programs and higher priority USSOCOM requirements. The FY 1996 adjustments reflect a Congressional add and reductions due to Congressional inflation adjustments and overhead/management savings and a decrease for revised OMB economic assumptions. The FY 1997 decrease is to fund higher priority MFP-11 requirements and to meet fiscal guidance and for repricing of budgets to reflect the Administration's revised economic assumptions forecast.	
Schedule:	None.	
Technical:	None.	
	FY95	FY96
	7.719	7.943
	7.788	10.443
	(.570)	(.458)
	7.149	9.985
		7.927
		8.222
		Cont.
		Cont.
		Total Cost

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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7.	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160402BB Special Operations Advanced Technology Development / Project S200	MARCH 1996
C. <u>Other Program Funding Summary</u> NA.		
D. <u>Schedule Profile</u> NA.		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE		MARCH 1996					
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development									
COST (in millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost	
PE 1160404BB Special Operations Tactical Systems Development		152.862	107.924	83.923	64.000	99.353	103.939	119.046	Cont.	Cont.	
D476, PSYOPS Advanced Development		3.647	.492	.484	1.436	14.251	.769	0	0	26.738	
D615, SOF Aviation		0	3.426	1.163	1.340	28.419	12.063	.935	Cont.	Cont.	
SF100, Aviation Systems Advanced Development		10.829	6.488	4.006	5.746	11.660	16.866	29.921	Cont.	Cont.	
S0417, Underwater Systems Advanced Development		32.574	30.863	18.993	11.921	4.473	4.479	4.765	Cont.	Cont.	
S1684, SOF Surface Craft Advanced Development		3.520	9.189	2.960	3.541	2.488	5.948	.678	Cont.	Cont.	
3284, SOF Aircraft Defensive Systems		29.339	12.109	6.567	7.879	3.990	13.274	11.048	Cont.	Cont.	
3326, AC-130U		2.186	6.124	14.563	6.327	1.668	1.395	1.384	6.699	353.934	
3642, Aircrew Training Systems		40.624	18.034	4.339	.243	.238	0	0	0	205.006	
S350, Special Operations Forces Planning and Rehearsal System		2.557	9.456	7.439	5.656	4.092	3.824	3.559	Cont.	Cont.	
S375, Weapons and Support Systems Advanced Development		0	.150	1.986	2.204	1.760	3.453	2.543	Cont.	Cont.	
S600, Future SOF Aircraft		0	0	0	.446	12.050	20.273	46.311	Cont.	Cont.	
S625, SOF Training Systems		0	2.437	9.759	11.985	8.103	9.333	1.871	Cont.	Cont.	
S675, Sustainment Engineering		11.905	0	0	0	0	0	0	0	21.494	
S700, Communications Advanced Development		4.138	1.457	2.648	2.064	3.421	2.487	4.113	Cont.	Cont.	
S800, Special Operations Munitions Advanced Development		11.458	7.639	9.016	3.212	2.740	9.775	11.918	Cont.	Cont.	
S900, Special Operations Miscellaneous Equipment Development		.85	.60	0	0	0	0	0	0	8.379	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development		
<p><u>A. Mission Description and Budget Item Justification</u></p> <p>Projects provide for development, testing, and integration of specialized equipment to meet the unique requirements of Special Operations Forces (SOF). Specialized equipment will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. These operations are generally conducted in harsh environments, for unspecified periods and in locations requiring small unit autonomy. SOF must infiltrate by land, sea, and air to conduct unconventional warfare, direct action, or deep reconnaissance operations in denied areas against insurgent units, terrorists, or highly sophisticated threat forces. The requirement to operate in denied areas controlled by a sophisticated threat mandates that SOF systems remain technologically superior to threat forces to ensure mission success.</p>			



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE								
		MARCH 1996								
APPROPRIATION / BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE / PROJECT NO.								
RDT&E, DEFENSEWIDE / 7		PE 1160404BB Special Operations Tactical Systems Development / Project D476								
COST (In Millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost
D476, PSYOP Advanced Development		3.647	.492	.484	1.436	14.251	.769	0	0	26.738

A. Mission Description and Budget Item Justification

The intent of Psychological Operations (PSYOP) is to persuade selected target audiences to support US national interests and to counter misinformation directed at US forces. Equipment deficiencies exist which seriously threaten the ability of USSOCOM forces to produce and disseminate PSYOP products. This project resources a level of effort to replace much of the 1950s and 1960s technology equipment currently employed and to provide enhanced capability to conduct tactical and theater level PSYOP dissemination in support of regional unified commanders and their deployed task forces. Sub-projects include:

- Deployable Print Production Center (DPPC). DPPC is a rapidly deployable, state-of-the-art computerized digital system capable of creating, editing and producing printed PSYOP products in forward locations and remote sites.
- Family of Loudspeakers (FOL). The FOL will be deployed by PSYOP Loudspeaker Teams and Mobile Audio/Visual Teams to target areas in support of Special Operations Forces and conventional forces. FOL will permit the conduct of loudspeaker missions over larger areas than present equipment capability allows and will provide a greater stand-off distance for US forces/assets. The FOL will consist of modular amplifiers and speakers that will provide high quality recorded audio, live dissemination, and limited acoustic deception capability. Amplifiers and speakers will be transported, operated, and mounted in ground vehicles, watercraft, rotary wing aircraft, and dismounted for ground operations (tripod/manpack). The basic system, or manpack, is comprised of a modular amplifier and modular speaker(s) weighing 35 lbs or less.
- Leaflet Delivery Systems (LDS). LDS develops a family of leaflet delivery systems, primarily non-developmental acquisitions



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which will provide Psychological Operations (PSYOP) personnel the ability to disseminate large quantities of leaflets in a wide range of scenarios including denied areas. LDS will be non-lethal, low radar cross-section systems which will not present a military threat that could provoke hostilities. LDS will provide overt and deniable methods of leaflet dissemination to be utilized across the operational continuum. One system currently available off-the-shelf consists of two subsystems: dissemination and launch. The dissemination subsystem will consist of a balloon carrier/vehicle and a leaflet release device capable of being preprogrammed for altitude release point. The launch subsystem will provide for logistical and weather programming. LDS will also include technologically advanced methods of leaflet dissemination, including unmanned aerial vehicle payloads.

- Special Operations Media System (SOMS) A. SOMS A is an extended range strategic / operational level radio / TV broadcast system, based on experience gained with the tactical SOMS B. SOMS A is capable of disseminating PSYOP products to a theater-wide audience. SOMS A will record, produce and broadcast PSYOP products and transmit / receive programming material via satellite communications with the fixed-site Media Production Center, tactical SOMS B systems and Commando Solo aircraft. Satellite communications will be used to obtain rapid approval of PSYOP products for dissemination in response to quickly changing mission scenarios, to forward products produced and approved in the continental United States to SOMS A for dissemination.
- Special Operations Media System (SOMS) B. SOMS B is a rapid deployable, C-130 drive on/drive off tactical radio/TV broadcast, reception and electronic news gathering system. This system replaces 1950-1960s technology and enhances the capability to conduct tactical level PSYOP dissemination in support of regional unified commanders. It reduces the airlift requirement.

## FY 1995 ACCOMPLISHMENTS:

- (\$3,547K) FOL. Demonstrated/validated critical technologies; released request for proposal to industry; conducted source selection for prototype contract award with production options, and issued revised request for proposal.

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<ul style="list-style-type: none"><li>• (\$100K) Special Operations Media System (SOMS) B. Support for safety and transportability certification testing at Aberdeen Test Center.</li></ul>			
FY 1996 PLAN:			
<ul style="list-style-type: none"><li>• (\$289K) Deployable Print Production Center (DPPC). Conduct Milestone 0/II review. Conduct surveys and evaluate non-developmental item equipment based on operator evaluation of the DPPC prototype developed as a Special Operations Special Technology project.</li><li>• (\$203K) SOMS B. Provides continued test and logistics support.</li></ul>			
FY 1997 PLAN:			
<ul style="list-style-type: none"><li>• (\$291K) SOMS A. Conduct Milestone 0 review. Begin research and development efforts with analysis of SOMS B lessons learned and survey of available non-developmental item equipment. Update SOMS A concept study.</li><li>• (\$193K) Leaflet Delivery System. Conduct Milestone 0 review. Conduct market survey to determine potential vendors and potential proof-of-concept. Update LDS concept study.</li></ul>			
ACQUISITION STRATEGY: NA.			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996		
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project D476			
<b>B. <u>Program Change Summary</u></b>		FY95	FY96	FY97	Total Cost
Previous President's Budget		3.620	.295	1.095	27.811
Appropriated Value		3.620	.295		
Adjustments to Appropriated Value / President's Budget		.027	.197	(.611)	(1.073)
Current Budget Submit		3.647	.492	.484	26.738
Change Summary Explanation:					
Funding:		This project contains several sub-projects. FY 1995 net increase is due to reductions for Congressional Defensewide RDT&E for travel, civilian pay, a directed Department of Energy reprogramming, and Small Business Innovative Research cost share, and an increase in Special Operations Media System (SOMS) B testing costs. The FY 1996 net increase is the result of a Congressional reduction for inflation adjustments and overhead/managements savings and an increase in SOMS B testing cost. FY 1997 decrease is to fund higher priority MFP-11 requirements and reductions due to repricing of budgets to reflect the Administration's revised economic assumptions forecast.			
Schedule:		SOMS B Milestone III rescheduled from 2QTR96 to 2QTR97 due to additional time required for delivery of AM and TV transmitters and AM antenna. Family of Loudspeakers (FOL) basic prototype contract award with production options will occur 2QTR96 after release of revised solicitation. FOL Milestone III will occur 3QTR97.			
Technical:		None.			

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<u>C. Other Program Funding Summary</u>									
PROC, Psyop Equipment	FY95	FY96	FY97	FY98	FY99	FY00	FY01	To Complete	Total Cost
	.018	19.595	7.794	7.595	4.726	14.686	1.986	Cont.	Cont.
<u>D. Schedule Profile</u>									
Special Ops Media System (SOMS) B									
MS III									
Family of Loudspeakers									
Basic Contract Award									
MS III									
Deployable Print Production Center									
MS 0									
MS I/II									
MS III									
SOMS A MS 0									
Leaflet Delivery System MS O									

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / Project D476		
A. Project Cost Breakdown (\$ in thousands)		<u>FY95</u>	<u>FY96</u>
1. Family of Loudspeakers			<u>FY97</u>
2. Deployable Print Production Center		3,547	
3. Leaflet Delivery System			289
4. Special Operations Media System - A			193
5. Special Operations Media System - B		100	291
			203
TOTAL:		<u>3,647</u>	<u>492</u>
			<u>484</u>

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)										DATE	
R-1 ITEM NOMENCLATURE										MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY											
RDT&E, DEFENSEWIDE / 7											
PE 1160404BB Special Operations Tactical Systems Development / Project D476											
B. Budget Acquisition History and Planning Information											
Performing Organizations											
Actual or Budget Value (\$ in thousands)											
Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program	
Product Development Organizations USSOCOM, Tampa FL Navy, OST, Ft Washington MD Army, CECOM, Ft Monmouth NJ DOE, Nat'l Engr Lab, Idaho Falls ID	WR	Var						291	16,073	16,364	
	ALLOT	Jun 96			1,910		289			289	
	ALLOT	Var			3,240	3,547		193	383	6,033	
	MIPR	May 93					27			3,267	
Support and Management Organizations Army MRSA, Lexington KY AMC LSA, Redstone Arsenal AL	MIPR	May 93			53					53	
	MIPR	Apr 94			161		30			191	
Test and Evaluation Organizations JITC, Ft Huachuca AZ Army ATC, Aberdeen Proving Gd MD	MIPR	Mar 94			202					202	
	MIPR	Aug 94			93	100	146			339	
Government Furnished Property											
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Delivery Date		Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program	
Subtotal Product Development					5,150	3,547	316	484	16,456	25,953	
Subtotal Support and					214		30			244	
Subtotal Test and Evaluation					295	100	146			541	
Total Project					5,659	3,647	492	484	16,456	26,738	

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Exhibit R-3

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE									MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project D615										
COST (In Millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost		
D615, SOF Aviation			3.426	1.163	1.340	28.419	12.063	.935	Cont.	Cont.		

#### A. Mission Description and Budget Item Justification

A requirement exists to provide aviation support to Special Operations Forces (SOF) in world-wide contingency operations and low-intensity conflicts. The specialized aircraft for these missions must be capable of rapid deployment and undetected penetration of hostile areas. These aircraft must be capable of operating at extended ranges under adverse weather conditions to infiltrate, provide logistics for, reinforce, and extract SOF. The threat is characterized by an extensive and sophisticated ground based air defense system and an upgraded air-to-air capability targeted against helicopters. Third World operations are apt to involve greater distances and more challenging geographical environmental conditions than the European theater. This project will develop/upgrade the Special Operations rotary wing aircraft systems that will be capable of successful operations in these increasingly hostile environments. Rotary wing systems supported by this project include: A/MH-6, MH-60G/L/K, MH-53J, TH-53A, and MH-47D/E. Efforts include:

- A/MH-6. Develop and test a Full Authority Digital Electronic Control for the Allison 250 C-30 turbine engine.
- MH-47E/MH-60K. (1) Develop and integrate Multi-Mode Radar software; (2) Develop software and hardware to accommodate Army funded common engineering change proposals for the CH-47D and UH-60L aircraft on SOF aircraft.
- MH-53J. (1) Upgrade the lamp for the ALQ-157 Infrared Countermeasures Set; (2) Develop and install software and hardware interfaces to allow flight line reprogramming of the ALQ-162 Electronic Countermeasures Jammer.



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project D615		
<p><b>FY 1995 ACCOMPLISHMENTS:</b></p> <ul style="list-style-type: none"> <li>Completed Multi-Mode Radar (MMR) development testing for MH-47E/MH-60K. Began MMR flight test qualification at Edwards Air Force Base.</li> <li>Achieved MH-47E/MH-60K aircraft fielding/material release/initial operational capability.</li> </ul> <p><b>FY 1996 PLAN:</b></p> <ul style="list-style-type: none"> <li>(\$2,500K) A/MH-6. Develop and test a Full Authority Digital Electronic Control for the Allison 250 C-30 turbine engine.</li> <li>(\$534K) MH-53J. Develop improved infrared lamp for the ALQ-157 Infrared Countermeasures Set. Improved lamps will be introduced on an attrition basis.</li> <li>(\$392K) MH-53J. Develop software and hardware interfaces to allow flight line reprogramming of ALQ-162 Electronic Countermeasure Jammers.</li> </ul> <p><b>FY 1997 PLAN:</b></p> <ul style="list-style-type: none"> <li>(\$1,163K) MH-47E/MH-60K. Develop software and hardware to accommodate U.S. Army funded common engineering change proposals for the CH-47D and UH-60L for SOF MH-47E/MH-60K aircraft.</li> </ul> <p><b>ACQUISITION STRATEGY:</b> NA.</p>			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project D615			
<b>B. Program Change Summary</b>				
Previous President's Budget		FY95	FY96	FY97
Appropriated Value			.945	
Adjustments to Appropriated Value / President's Budget			3.445	
Current Budget Submit			(.019)	1.163
			3.426	1.163
				Cont.
				Cont.
<b>Change Summary Explanation:</b>				
Funding:	FY 1996 increase reflects Congressional plus-up for the Full Authority Digital Electronic Control less Congressional inflation adjustment and overhead/management savings. FY 1997 increase funds new requirement described in FY 1997 Plan.			
Schedule:	None.			
Technical:	None.			

### Change Summary Explanation:

**Funding:** FY 1996 increase reflects Congressional plus-up for the Full Authority Digital Electronic Control less Congressional inflation adjustment and overhead/management savings. FY 1997 increase funds new requirement described in FY 1997 Plan.

**Schedule:** None.

**Technical:** None.



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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / Project D615		
A. <u>Project Cost Breakdown</u> (\$ in thousands)		<u>FY95</u>	<u>FY96</u>
1. ALQ-157			534
2. ALQ-162			392
3. MH-47E / MH-60K ECP Engineering and Testing			1,163
4. AMH-6 FADEC			2,500
TOTAL:			3,426
			1,163

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)										DATE		MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7					R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / Project D615								
B. Budget Acquisition History and Planning Information													
Performing Organizations													
Actual or Budget Value (\$ in thousands)													
Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Product Development Organizations ALQ-157, WR-ALC ALQ-162, WR-ALC, NAS MH-47E/60K, PM-TAPO FADEC, PM-MELB	Var	Var					399			399			
	Var	Var					256			256			
	Var	Var						815	Cont.	Cont.			
	Var	Var					2,500			2,500			
Support and Management Organizations ALQ-157, WR-ALC ALQ-162, WR-ALC MH-47E/60K, PM-TAPO	Var	Var					105			105			
	Var	Var					86			86			
	Var	Var						264	Cont.	Cont.			
Test and Evaluation Organizations ALQ-157, SMOTEC ALQ-162, SMOTEC MH-47E/60K, PM-TAPO	Var	Var					30			30			
	Var	Var					50			50			
	Var	Var						84	Cont.	Cont.			
Government Furnished Property													
Item Description	Contract Methd/Type or Funding Vehicle	Award or Obligation Date	Delivery Date		Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Subtotal Product Development							3,155	815	Cont.	Cont.			
Subtotal Support and							191	264	Cont.	Cont.			
Subtotal Test and Evaluation							80	84	Cont.	Cont.			
Total Project							3,426	1,163	Cont.	Cont.			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE										MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project SF100											
COST (In Millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost			
SF100, Aviation Systems Advanced Development		10.829	6.488	4.006	5.746	11.660	16.866	29.921	Cont.	Cont.			

A. Mission Description and Budget Item Justification

This project investigates already developed and maturing technologies that have direct application for the development and procurement of specialized equipment to meet unique SOF aviation requirements. Timely application of SOF-unique technology is critical and necessary to meet requirements in such areas as: Low Probability of Intercept/Low Probability of Detection (LPI/LPD) radio frequency radar; LPI formation/rendezvous flight; digital terrain elevation data and electronic order of battle; digital maps; LPI radar altimeter; display technology; situational awareness; near-real-time intelligence to include data fusion; laser radar/millimeter wave radar obstacle avoidance; imagery; threat detection and avoidance; electronic support measures for threat geolocation and specific emitter identification; navigation; target detection and identification technologies; light detection and ranging ballistic wind measurement technologies; and studies for future SOF aircraft requirements. Sub-projects include:

- AC-130 Light Detection and Ranging. Improves first-shot accuracy for AC-130H Gunships by measuring the wind at the target location real-time and using it in the fire control solution prior to first gunfire.
- AC-130H Low Light Level TV (LLLTV) Replacement. The LLLTV program modifies and/or redesigns critical high failure components and then installs these components into a turret. These components include AAQ-17 Laser Illuminator, the AXQ-17 Camera, and the AJQ-24 Pedestal.
- AC-130U/H Infrared Detection Set (IDS) Upgrade. Modifies the optics on the existing AN/AAQ-17 IDS and Enhanced AN/AAQ-17 IDS currently installed on 21 AC-130U/H aircraft. The modification will substantially increase the magnification and resolution of the IDS thus allowing the aircrew to identify friendlies/targets while operating outside the

## UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project SF100		
range of threat systems.			
<ul style="list-style-type: none"><li>● Aviation Engineering Analysis. Provides a rapid response capability to support SOF fixed wing aircraft. The purpose is to correct systems deficiencies, improve asset life, and enhance mission capability through the means of feasibility studies and engineering analyses. The sub-project provides the engineering required to improve the design and performance integrity of the aircraft support systems, sub-systems equipment, and embedded computer software as they relate to the maintenance, overhaul, repair, quality assurance, modifications, material improvements and service life extensions. Prior to FY 1996 aviation engineering analysis was funded in RDT&amp;E project S675, Sustainment Engineering.</li><li>● Low Probability of Intercept Penetration Aids. Selected technologies will be evaluated under a requirements analysis, a low probability of intercept/low probability of detection modeling study, and an Advanced Technology Demonstration (ATD) as approved by USCINCSOC on 4 August 1995. The ATD leverages existing avionics systems combined with previous Quiet Knight software to improve low probability of intercept capabilities. The study and ATD will help the assessment process.</li><li>● Ring Laser Gyro (RLG). Replaces outdated inertial navigation units with new RLG technology on MC-130E/H and AC-130H aircraft. This replacement increases the reliability and maintainability of the aircraft and enhances navigation and delivery capabilities.</li></ul>			
FY 1995 ACCOMPLISHMENTS:			
<ul style="list-style-type: none"><li>● (\$2,530K) AC-130U/H Infrared Detection Set Upgrade. Awarded a sole source non-recurring engineering design contract to Texas Instruments.</li><li>● (\$100K) Aviation Engineering Analysis. Began a Phase 0 concept formulation study for the AC-130U Maintenance Trainer.</li></ul>			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project SF100		
<ul style="list-style-type: none"><li>● Low Probability of Intercept Penetration Aids (LPI Pen aids).</li><li>● (\$7,299) Conducted LPI Pen aids evaluation as an advanced technology demonstration. Improved avionics on SOF aircraft were evaluated on capability to avoid detection and improve threat awareness.</li><li>● (\$900K) Conducted Probability of Intercept and Detection Study with the Air Force Information Warfare Center to determine how many of the existing avionics systems on SOF aircraft can be detected. Results help establish baseline for Cost and Operational Effectiveness Analysis.</li></ul>			
FY 1996 PLAN:			
<ul style="list-style-type: none"><li>● (\$2,924K) AC-130 Low Light Level TV. Award a sole-source contract for preliminary engineering studies.</li><li>● LPI Pen aids.</li><li>● (\$1,000) Complete analysis of Air Force Information Warfare Center study of how much emission detection is necessary and the cost to modify existing systems or procure new avionics. Also complete evaluation of Advanced Technology Demonstration avionics for consideration of a follow-on full development program.</li><li>● (\$2,432K) Continue flight evaluation of LPI modified avionics.</li><li>● (\$132K) Ring Laser Gyro. Conduct software/hardware integration engineering for installation on MC-130E aircraft.</li></ul>			
FY 1997 PLAN:			
<ul style="list-style-type: none"><li>● (\$2,232K) AC-130 Light Detection and Ranging. Conduct engineering and manufacturing development activities.</li></ul>			



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project SF100		
<ul style="list-style-type: none"> <li>• (\$1,475K) Aviation Engineering Analysis. Conduct a study and analysis for various preplanned product improvements to the AC-130U Gunship. Continue engineering analyses of SOF fixed wing aircraft avionics and sensors.</li> <li>• (\$299K) AC-130U P3I. Conduct a study to analyze upgrade of the Gunship mission computer.</li> </ul>			
ACQUISITION STRATEGY:			
<ul style="list-style-type: none"> <li>• AC-130 Light Detection and Ranging. Compete Phase II demonstration contract and flight test proposed solution(s) then, award a competitive contract for engineering and manufacturing development (EMD). The ability to compete the EMD contract will be dependent upon data received from demonstration/validation.</li> <li>• AC-130H Low Light Level TV Replacement. Pursue a phased modification of the following high failure components: AJQ-24 Pedestal, AAQ-17 Laser Illuminator, and AXQ-17 Camera. Final phase of program will turretize components.</li> <li>• Low Probability of Intercept Penetration Aids. The Quiet Knight Advanced Technology Demonstration (ATD) builds upon successfully demonstrated technologies in the Balanced Technology Initiative (BTI) Quiet Knight Phase I/II flight demonstration efforts. The BTI contract was sole source. The proposed ATD acquisition strategy is to continue with the same government and contractor team and use the same contractual vehicles in order to maintain project continuity and minimize program risk. A future production program will be full and open competition.</li> </ul>			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996		
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project SF100				
<u>B. Program Change Summary</u>		FY95	FY96	FY97	Total Cost
Previous President's Budget		14.069	7.634	10.676	Cont.
Appropriated Value		14.069	7.634		
Adjustments to Appropriated Value / President's Budget		(3.240)	(1.146)	(6.670)	
Current Budget Submit		10.829	6.488	4.006	Cont.
<b>Change Summary Explanation:</b>					
<b>Funding:</b>		FY 1995 decrease was a below threshold reprogramming to resource executable requirements. The FY 1996 decrease was due to revised OMB economic assumptions. The FY 1997 decrease is to meet fiscal guidance, and to meet propriety of funding requirements, and repricing of budget to reflect the Administration's revised economic assumptions forecast. \$3.963M was realigned to procurement to support AC-130 Low Light Level TV non-recurring engineering costs.			
<b>Schedule:</b>		AC-130U/H Infrared Detection Set Upgrade program slipped 15 months due to change in Air Force program management responsibilities from Warner Robins Air Logistics Center to the Aeronautical Systems Center. The LPI Penaid's program is undergoing continuing studies, modeling, and advanced technology demonstration efforts to better define SOF aviation requirements for LPI technology.			
<b>Technical:</b>		None.			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)					DATE		MARCH 1996					
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project SF100										
C. <u>Other Program Funding Summary</u>												
	FY95	FY96	FY97	FY98	FY99	FY00	FY01	To Complete	Total Cost			
PROC, Aircraft Spt*	4.946		2.504									
PROC, C-130 Mods**	10.850	9.341	22.096	10.820	33.462	41.918	29.905	Cont.	Cont.			
* Ring Laser Gyro												
**Includes C-130 Modifications sub-line item funds for AC-130U/H Infrared Detection Set Upgrade, AC-130H Light Detection and Ranging, AC-130H Low Light Level Television replacement, and AC-130U P3I.												
D. <u>Schedule Profile</u>												
	FY95				FY96				FY97			
	1	2	3	4	1	2	3	4	1	2	3	4
AC-130U/H IDS NRE Contract Award					x							
AC-130H LLLTV Contract Award for Studies							x					
AC-130 LIDAR MS I/II									x			

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / Project SF100		
A. <u>Project Cost Breakdown</u> (\$ in thousands)		<u>FY95</u>	<u>FY97</u>
1. AC-130H LIDAR			2,232
2. AC-130H Low Light Level TV Replacement		2,924	
3. AC-130U/H IDS Upgrade (AN/AAQ-17)	2,530		
4. LPI Penails	8,199	3,432	
5. SOF Aviation Engineering Analyses	100		1,475
6. Ring Laser Gyros		132	
7. AC-130U P3I			299
TOTAL:	10,829	6,488	4,006

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)										DATE		MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7					R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / SF100								
B. Budget Acquisition History and Planning Information													
Performing Organizations													
Actual or Budget Value (\$ in thousands)													
Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Product Development Organizations													
Texas Instruments (AN/AAQ-17)	SS/FPF	Aug 95	6,824	6,824	3,995	2,530		299					
TBD Contractor (AC-130U F3I)	TBD	TBD		TBD									
TBD Contractor (LPI Pensida)	SS/FP	Mar 96		TBD		6,561	3,432						
TBD Contractor (LIDAR)	TBD	Feb 97		TBD				2,232					
Lockheed Martin (LLLTIV)	SS/T&M	Apr 96		2,924			2,924						
Lockheed Aeronautical Svcs (RLG)	FPF	Sep 96		132			132						
Various	Various				3,307	294		1,475	Cont.	Cont.			
Support and Management Organizations													
Booz Allen Hamilton (LPI Pensida)	C/CPFF	Jan 95				1,444			1,444	1,444			
Test and Evaluation Organizations													
Government Furnished Property													
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Delivery Date		Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Subtotal Product Development													
Subtotal Support and Management					7,302	9,385	6,488	4,006	Cont.	Cont.			
Subtotal Test and Evaluation						1,444			1,444	1,444			
Total Project					7,302	10,829	6,488	4,006	Cont.	Cont.			

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Exhibit R-3

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## UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE									
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S0417									
COST (In Millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost	
S0417, Underwater Systems Advanced Development		32.574	30.863	18.993	11.921	4.473	4.479	4.765	Cont.	Cont.	

A. Mission Description and Budget Item Justification

This project funds the development of SEAL support items used during the conduct of hydrographic / inland reconnaissance, beach obstacle clearance, underwater ship attack, and other direct action missions. Sub-projects include:

- Advanced SEAL Delivery System (ASDS). The ASDS is a manned combatant submersible capable of delivering SOF personnel and weapons in a high threat environment. The ASDS will provide the requisite range, endurance, payload, and other capabilities for operation in the full range of threat environments.
- MK 8 Mod 1 SEAL Delivery Vehicle (SDV). This program upgrades and extends the service life of aging MK 8 Mod 0 SDVs; the MK 8s were built with 1960s technology. The new MK 8 Mod 1 SDV will incorporate more modern equipment to improve supportability / maintainability and will include upgrade of selected subsystems. The program was renamed MK 8 Mod 1 to more accurately reflect its nature as a Service Life Extension Program rather than a new, in-depth Research, Development, and Acquisition program.
- Undersea Systems. Development of undersea systems which provide the SOF combat swimmers with the necessary diving and diving related equipment to fulfill assigned underwater combat missions include the following:
  - Diver Active Thermal Protection System. Development of self-contained active thermal protection system which allows combat swimmers to conduct missions in extreme cold water environments. Program cancelled in FY 1995.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S0417		
<ul style="list-style-type: none"> <li>• Navy Special Warfare Mine Countermeasures (NSWMCM). Phased development / improvement of low magnetic and acoustic signature equipment to support the combat swimmer in the NSWMCM operational environment.</li> <li>• Miniaturized Underwater Global Positioning System (GPS) Receiver (MUGR). Development of a waterproof, miniaturized, GPS unit for combat swimmers. This program transitioned from a Special Operations Special Technology effort.</li> <li>• MK-24 Full Face Mask. Upgrade the current MK-24 Full Face Mask to incorporate a drinking tube to allow operators to rehydrate underway during mission.</li> <li>• Non-Gasoline Burning Outboard Engine. Development of a submersible outboard engine, which does not use highly volatile gasoline, for use SOF Combat Rubber Raiding Craft.</li> </ul>			
FY 1995 ACCOMPLISHMENTS:			
<ul style="list-style-type: none"> <li>• (\$27,890K) Advanced SEAL Delivery System. Started subsystem critical design reviews and began fabrication and integration of first vehicle. Provided for design of conversion mods and model testing of primary submarine host.</li> <li>• (\$2,282K) MK 8 Mod 1 SEAL Delivery Vehicle (SDV). Completed system level testing, developed training modifications, procured initial conversion kits and began conversion/overhaul of MK 8 Mod 0 SDVs.</li> <li>• (\$425K) Diver Active Thermal Protection System. Program cancelled due to its inability to meet technical performance parameters.</li> <li>• (\$159K) NSWMCM. Continued development of integrated sensor navigation system and remote command detonation device.</li> </ul>			



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S0417		
	<ul style="list-style-type: none"><li>• (\$20K) Miniature Underwater Global Positioning System Receiver. Completed operational testing and Milestone III.</li><li>• (\$1,798K) Project Classified. Reported under separate cover.</li></ul>		
FY 1996 PLAN:			
	<ul style="list-style-type: none"><li>• (\$28,015K) Advanced SEAL Delivery System (ASDS). Complete subsystem critical design reviews. Continue fabrication and integration of the first ASDS and begin system level testing. Begins conversion of primary host platform to support system level testing. Begin development of special purpose equipment.</li><li>• (\$85K) Navy Special Warfare Mine Countermeasures (NSWMCM). Continue development of integrated sensor navigation system and remote command detonation device.</li><li>• (\$498K) Non-Gasoline Burning Outboard Engine. Award contract to prototype engine contract.</li><li>• (\$2,265K) Project Classified. Reported under separate cover.</li></ul>		
FY 1997 PLAN:			
	<ul style="list-style-type: none"><li>• (\$18,221K) ASDS. Complete system level testing. Conduct in-water trials, training of Navy crews, and perform simulated missions. Provides support equipment and funds model testing for the first SSN 688 Class host.</li><li>• (\$97K) NSWMCM. Continue development of integrated sensor navigation system and remote command detonation device.</li><li>• (\$675K) Non-Gasoline Burning Engine. Continue development of prototype engine. Initiate testing of prototype engine in the 2nd quarter (January, 1997).</li></ul>		



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE																									
		MARCH 1996																									
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S0417																										
<p><b>ACQUISITION STRATEGY:</b></p> <ul style="list-style-type: none"> <li>Advanced SEAL Delivery System (ASDS). To select three qualified companies to develop independent preliminary designs. Following completion of the preliminary design efforts, a request for proposal for the engineering and manufacturing development (EMD) contract was released to these companies for proposal submittal for the design, fabrication, and test of the first ASDS. A single contractor was selected based on a best value source selection process. The selected contractor will also construct the production systems as phased pricing options in the ASDS EMD contract.</li> <li>MK 8 Mod 1 SEAL Delivery Vehicle (SDV). To develop a series of hardware modifications using a combination of off-the-shelf equipment and in-house Navy and contractor developed hardware, integrated by the SDV design agent. Beginning in FY 1995, procurement funds will be used to purchase and install modifications via a combination of competitive and sole source contracts to be awarded by In-Service Engineering Agent.</li> </ul>																											
<p><b>B. <u>Program Change Summary</u></b></p> <table> <tr> <td>Previous President's Budget</td> <td>FY95</td> <td>FY96</td> <td>FY97</td> <td>Total Cost</td> </tr> <tr> <td>Appropriated Value</td> <td>36.497</td> <td>27.587</td> <td>13.098</td> <td>Cont.</td> </tr> <tr> <td>Adjustments to Appropriated Value / President's Budget</td> <td>30.454</td> <td>31.587</td> <td></td> <td></td> </tr> <tr> <td>Current Budget Submit</td> <td>2.120</td> <td>(.724)</td> <td>5.895</td> <td></td> </tr> <tr> <td></td> <td>32.574</td> <td>30.863</td> <td>18.993</td> <td>Cont.</td> </tr> </table>			Previous President's Budget	FY95	FY96	FY97	Total Cost	Appropriated Value	36.497	27.587	13.098	Cont.	Adjustments to Appropriated Value / President's Budget	30.454	31.587			Current Budget Submit	2.120	(.724)	5.895			32.574	30.863	18.993	Cont.
Previous President's Budget	FY95	FY96	FY97	Total Cost																							
Appropriated Value	36.497	27.587	13.098	Cont.																							
Adjustments to Appropriated Value / President's Budget	30.454	31.587																									
Current Budget Submit	2.120	(.724)	5.895																								
	32.574	30.863	18.993	Cont.																							

## UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
		MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S0417	
<b>Change Summary Explanation:</b>		
<b>Funding:</b>	<p>FY 1995 increase over the appropriated value is result of restructuring of programs that moved Advanced SEAL Delivery System (ASDS) primary host conversion from the Submarine Conversion program to the ASDS program. The FY 1996 current submit reflects a \$4.0M Congressional plus-up for ASDS minus a decrease due to revised OMB economic assumptions. Funds for MK-24 Full-Face Mask were realigned to Naval Special Warfare Mine Countermeasures as the Navy is now paying for development of the MK-24 upgrade. The FY 1997 increase funds ASDS model testing for the 688 Class Improved Performance Machinery Program host submarine and the increase between the government estimate and actual award amount for the ASDS fabrication and integration contract.</p>	
<b>Schedule:</b>	<p>ASDS program schedule has been revised following a redesign of the pressure hull and a realignment of priorities. No impact to initial operational capability anticipated. Diver Active Thermal Protection System program terminated. Non-gasoline Burning Outboard Engine program slip is a result of late award of technology base contract.</p>	
<b>Technical:</b>	<p>None.</p>	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)					DATE		MARCH 1996			
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S0417								
C. <u>Other Program Funding Summary</u>										
ASDS		FY95	FY96	FY97	FY98	FY99	FY00	FY01	To Complete	Total Cost
PROC, ASDS	0				76.279	1.568	6.711	12.911	Cont.	Cont.
MK 8 Mod 1 SDV										
PROC MK8 Mod 1 SDV	11.792	11.028	9.255	6.005	2.538	0	0	0	40.618	
NSWCMCM										
PROC, Maritime Equip.			0	0	0	0	1.177	2.257	Cont.	Cont.
MUGR										
PROC, Maritime Equip.	1.228								1.198	
MK 8 Mod 1 SDV										
PROC, Spares and Repair Parts	0	.935	1.725	0	0	0	0	0	2.660	
NBOE										
PROC, Maritime Equip.		.238	2.265	.937	.953	Cont.				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE		MARCH 1996											
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S0417													
		FY95				FY96				FY97					
		1	2	3	4	1	2	3	4	1	2	3	4		
D. Schedule Profile															
Advanced SEAL Delivery System															
Complete Critical Design Reviews															
Start Testing First Unit															
MK 8 Mod 1 SEAL Delivery Vehicle (SDV)															
Begin Procurement of Conversion Kits															
Commence Overhaul/Conversion															
Complete Test and Evaluation															
Diver Active Thermal Protective System															
Program Terminated															
Miniature Underwater GPS Receiver															
Milestone III															
Non-Gasoline Burning Engine															
Milestone 0/I															
NSW Mine Countermeasures															
Milestone I (FY 1998)															

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE PE 1140404BB Special Operations Tactical Systems Development / Project S0417		
A. <u>Project Cost Breakdown</u> (\$ in thousands)		<u>FY95</u>	<u>FY96</u>
1. Advanced SEAL Delivery System			<u>FY97</u>
Detailed Design / Manufacturing Development			
Program Management Office Support	27,290	27,315	17,543
2. MK 8 Mod 1 SEAL Delivery Vehicle	600	700	678
System Engineering			
Developmental Test and Evaluation	2,055		
Program Management Office Support	227		
3. Other Undersea Systems			
Diver Active Thermal Prot Sys (DATPS) Development	370		
DATPS Program Management Office Support	15		
DATPS OT&E	40		
Naval Special Warfare Mine Countermeasures Engineering and Manufacturing Dev.	159	85	97
Miniature Underwater GPS Receiver Program Management Office Support / Test	20		
Non-Gasoline Burning Outboard Engine Development		498	675
4. Project Classified	1,798	2,265	
TOTAL:	32,574	30,863	18,993

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)										DATE		MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE								
RDT&E, DEFENSEWIDE / 7					PE 1160404BB Special Operations Tactical Systems Development / Project S0417								
B. Budget Acquisition History and Planning Information													
Performing Organizations													
Actual or Budget Value (\$ in thousands)													
Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Product Development Organizations ASDS, Westinghouse, MD ASDS, Newport News Shipbuilding, VA SDV, NSWC, Dahlgren NSWCMC, TBD DATPS, Coastal Systems Station (CSS) MUGR, CSS NBOE, CSS Project Classified	C/CFIF	Sep 94			25,090	19,329	19,345	12,000	12,743	88,447			
	CFIF	Apr 95				5,100	3,900			9,000			
	WR	Various			9,664	2,055				11,719			
	Various	Jan-May 95			1,397	159	85	97	Cont.	Cont.			
	Various	Various			1,000	370				1,370			
	Various	Various			200			299	492	200			
	Various	Various				1,798	2,265			791			
											4,063		
	Support and Management Organizations ASDS, NAVSEASYSOM (PMAO) ASDS, Various SDV, NAVSEASYSOM DATPS, NAVSEASYSOM NSWCMC, NAVSEASYSOM MUGR, CSS NBOE, CSS	WR	Various			510	600	700	678		2,488		
		Various	Various			1,347	2,861	4,070	5,543		13,821		
WR		Various			147	227				374			
WR		Various			72	15				87			
WR		Various			223				Cont.	Cont.			
WR		Various			125		100	100		125			
WR		Various								200			
Test and Evaluation Organizations DATPS, CSS, OPTEVFOR MUGR, CSS NBOE, CSS					400	40				440			
					106	20				126			
							398	276		674			
Government Furnished Property - None													
Subtotal Product Development													
Subtotal Support and Mgmt													
Subtotal Test and Evaluation													
Total Project													

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE									
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S1684									
COST (In Millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost	
S1684, SOF Surface Craft Advanced Development		3.520	9.189	2.960	3.541	2.488	5.948	.678	Cont.	Cont.	

A. Mission Description and Budget Item Justification

This project provides for development and testing of surface combatant craft and selected items of specialized equipment to meet the unique requirements of Special Operations Forces (SOF). These craft and equipment will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. Sub-projects include:

- MK V Special Operations Craft (MK V SOC). The MK V SOC provides a fast, rapidly deployable, air-transportable, and reliable combatant craft to be used primarily for medium range SEAL insertion/extraction tasks and limited coastal patrol and interdiction missions.
- Navy Boat Program. This program provides engineering studies, tests, preliminary design, and specification development for combatant craft and craft subsystems. This will result in improved operability and safety, reduced detectability, and increased survivability for inflatable boats, rigid inflatable boats, and other Naval Special Warfare (NSW) combatant surface craft.
- NSW Rigid Inflatable Boat (RIB). Program acquires a fully operational quantity of 70 RIBs for SEAL support. The RIB has a projected 5 year service life. Acquisition strategy is to competitively procure commercially available boats and modify them to meet revised Operational Requirement Document requirements. Missions for the RIB include tactical support of SOF (including ship-to-shore insertion/extraction of SEALs and Army SOF), resupply along littorals and nighttime offshore surveillance.
- Patrol Coastal (PC) Upgrades. This sub-project supports the development, test, and evaluation of PC upgrades/modifications



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S1684		
that will result in improved self-defense and SOF support. A self-defense system upgrade will be developed and tested in FY 1996-1999 for production and installation in FY 2001-2005.			
FY 1995 ACCOMPLISHMENTS:			
<ul style="list-style-type: none"><li>• (\$1,474K) MK V Special Operations Craft (MK V SOC). Awarded production contract and conducted technical evaluations of first two low rate initial production craft. Initiated pre-planned product improvement efforts to integrate government furnished weapons, began to identify Non-Developmental Item (NDI) electronics upgrade candidates, and planned proof-of-concept tests for NDI Forward Looking Infrared (FLIR) equipments.</li><li>• (\$879K) Naval Special Warfare (NSW) Rigid Inflatable Boat (RIB). Provided notification to Congress of new NSW RIB program and requested FY 1996 funding adjustments to support new acquisition strategy. Developed performance specification for prototype NSW RIB.</li><li>• (\$1,167K) Patrol Coastal (PC) Upgrades. Continued propeller redesign effort and prototype testing and procured, installed, and tested active noise cancellation system. Continued P3I effort to include version 2 software development for command and control. Conducted PRIVATEER Developmental Test / Operational Test.</li></ul>			
FY 1996 PLAN:			
<ul style="list-style-type: none"><li>• (\$3,869K) MK V SOC. Conduct operational evaluation, achieve Milestone III, and continue program. Finalize weapons integration efforts, conduct detailed analysis/component testing of NDI electronics upgrade and FLIR candidates. Conduct field operational testing and evaluation of upgraded weapons suite.</li><li>• (\$49K) Navy Boat Program. Conduct troubleshooting and development to correct emergent safety and reliability problems on NSW surface craft.</li></ul>			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S1684		
<ul style="list-style-type: none"><li>● (\$4,217K) Naval Special Warfare (NSW) Rigid Inflatable Boat (RIB). Continue specification development, conduct site surveys, source selection support, detailed test planning, prototype acquisition, signature reduction, and transportability studies.</li><li>● (\$1,054K) Patrol Coastal (PC) Upgrades. Conduct studies for self-defense systems upgrade.</li></ul>			
FY 1997 PLAN:			
<ul style="list-style-type: none"><li>● (\$965K) MK V Special Operations Craft (MKV SOC). Complete field operational testing and evaluation of selected Non-Developmental Item (NDI) electronics upgrades and Forward Looking Infrared equipment.</li><li>● (\$50K) Navy Boat Program. Continue troubleshooting and development to correct emergent safety and reliability problems on NSW surface craft.</li><li>● (\$210K) NSW RIB. Continue signature reduction studies.</li><li>● (\$1,735K) PC Upgrades. Award a contract for long lead items for ship self-defense system engineering development model and develop installation drawings. Conduct PC modular afterdeck study and prepare preliminary drawings.</li></ul>			
ACQUISITION STRATEGY:			
<ul style="list-style-type: none"><li>● MK V SOC. Program is in Phase III of the DoD acquisition process. Developmental testing and evaluations and early operational assessment have been completed. Milestone II was reached on June 21, 1994. Production contract was awarded in November 1994. The initial four craft are approved as low rate initial production. Remaining production systems will be procured via options to this contract subsequent to Milestone III. P3I efforts, oriented to NDI improvements to baseline</li></ul>			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S1684		
<p>capabilities, commenced in 1QTR95. Technical evaluation / operational evaluation occurred during 4QTR95/1QTR96, followed by a Milestone III decision, October 27, 1995.</p>			
<ul style="list-style-type: none"> <li>• Naval Special Warfare Rigid Inflatable Boat. Following complete program restructure, a performance specification driven request for proposal was issued to industry in October 1995. Design proposals were received in January 1996, and are being evaluated from January to April 1996. Based upon these evaluations, at least two test article contracts will be awarded. Developmental and operational testing will be conducted on these test articles to reach a downselect decision to one contractor in 2QTR97.</li> <li>• Patrol Coastal Self-Defense Systems Upgrade. Systems will be added to this ship class through integration, test, and evaluation of NDI systems to the maximum extent practical. A market survey indicated there are several potential NDI solutions. A Milestone 0 will be sought 3QTR96. An Engineering Development Model will be procured for PC-specific developmental and operational tests. The NDI strategy will maximize use of data already obtained via other Service testing.</li> </ul>			
<p><u>B. Program Change Summary</u></p>		FY95	FY96
Previous President's Budget		.043	5.797
Appropriated Value		.083	10.090
Adjustments to Appropriated Value / President's Budget		3.437	(.094)
Current Budget Submit		3.520	9.189
			2.960
			Cont.
			Cont.
			Cont.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S1684	MARCH 1996
<b>Change Summary Explanation:</b>		
<b>Funding:</b>	FY 1995 increase continued the MK V Special Operations Craft, Navy Boat Program, and Patrol Coastal efforts described under FY 1995 Accomplishments. FY 1996 increase reflects Congressional realignment from SOF Maritime Equipment procurement to Naval Special Warfare Rigid Inflatable Boat program less decrease due to revised economic assumptions that support the Bosnia reprogramming.	
<b>Schedule:</b>	None.	
<b>Technical:</b>	None.	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE		MARCH 1996				
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S1684								
C. <u>Other Program Funding Summary</u>										
RIBS		FY95	FY96	FY97	FY98	FY99	FY00	FY01	To Complete	Total Cost
PROC, Maritime Equip.		.092	5.784	3.945	7.441	9.328	9.036	8.506	Cont.	Cont.
Patrol Coastal										
PROC, Patrol Coastal		33.954	19.520							171.829
MK V SOC										
PROC, MK V		14.522	35.884	41.211	35.384					145.142
PROC, Maritime										
Equipment Modifications			8.492	4.833	6.136	48.051	34.515	49.272	Cont.	Cont.
PROC, SOF Spares and Repair Parts			6.858	14.113	11.710	1.224				36.565

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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S1684							
		FY95		FY96					
		1	2	3	4	1	2	3	4
D. <u>Schedule Profile</u>									
Navy Boat Program									
Commence studies									
NSW Rigid Inflatable Boat									
Dev Performance Spec									
MS II									
DT/OT									
Patrol Coastal Upgrades									
Complete MK 96 Gun Sys Assembly/Test									
SRB approval for MK 96 Install									
MS 0 for Self-Defense System Upgrade									
Complete Self-Defense System COEA									
Self-Defense System Milestone I/II									
MK V Special Operations Craft									
Production Contract Award									
Commence P3I efforts									
TECHEVAL/OPEVAL									
Milestone III									

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / Project S1684		
A. <u>Project Cost Breakdown</u> (\$ in thousands)	<u>FY95</u>	<u>FY96</u>	<u>FY97</u>
1. Navy Boat Program		49	50
2. Patrol Coastal Upgrades			
Primary Hardware Development		454	1,057
DT&E	689	172	194
Government Engineering Support	433	424	479
Travel	5	4	5
Software Development	40		
3. MK V Special Operations Craft			
Primary Hardware Development			
DT&E	200	50	50
OT&E	400	50	50
Contractor Engineering Support	175	1,254	120
Government Engineering Support	124	2,015	500
Program Management Support	350	300	200
Travel	75	50	45
Miscellaneous (<15% of total)	150	150	
4. NSW Rigid Inflatable Boat			
Primary Hardware development		2,567	
DT&E		115	
Engineering Support	879	1,535	210
TOTAL:	3,520	9,189	2,960

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)										DATE		MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7					R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / Project S1684								
B. Budget Acquisition History and Planning Information													
Performing Organizations													
Actual or Budget Value (\$ in thousands)													
Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Product Development Organizations													
Peterson Builders	C/CPFF	Dec 93	4,955	4,955	4,955					4,955			
Halter Marine	C/CPFF	Apr 94	9,500	9,500	9,500					9,500			
Miscellaneous Government	MIPR	Oct 94-Sep 97	5,129	5,129	2,982	200	1,447	500	Cont.	214			
Miscellaneous Contractor	C/OPTION	Nov 93	169	169	169	45				220			
Miscellaneous Government	WR	Sep 93	220	220	220					3,275			
Naval Special Warfare Center	WR	Aug 94	3,275	3,275	3,275					1,445			
Miscellaneous Government	WR	Jan 94-Mar 95	1,445	1,445	1,445					3,951			
TBD Contractor	C/OPTION	Jan 96, 97, 98	3,951	3,951	3,951	433	454	1,057	2,440	433			
Miscellaneous Government	MIPR	Jan 97	433	433			2,568			2,568			
TBD Contractor	C/CPFF	May 96											
Support and Management Organizations													
Miscellaneous Government	MIPR/WR	Oct 93-Dec 94	7,787	7,787	5,590	499	1,453	245		7,787			
Miscellaneous Contractors	PO	Oct 93-Sep 97	3,027	3,027	1,863	175	869	120		3,027			
Miscellaneous Contractor	C/FP	Mar 94	110	110	110					110			
Miscellaneous Government	WR	Jan 94-Oct 94	393	393	393					393			
Miscellaneous Contractor	C/OPTION	Jul 95-Sep 96				700	1,012			1,712			
Miscellaneous Government	MIPR	Sep 95-Sep 97				179	523			702			
Miscellaneous Government	MIPR	Dec 96-Sep 96					428	484	Cont.				
Test and Evaluation Organizations													
Miscellaneous Government	MIPR/PO	Oct 93-Sep 97	1,448	1,448	648	600	100	100		1,448			
Miscellaneous Government	WR	Mar 94-Mar 95	655	655	655					655			
Naval Special Warfare Center	MIPR	Sep 96-Sep 97	277	277		315	67	210		277			
Miscellaneous Government	MIPR/WR	Oct 94-Oct 95				374	172	194		315			
Miscellaneous Government	WR	Oct 94-Oct 95					49	50		740			
Miscellaneous Government	MIPR	Mar 96					47		Cont.	47			
Miscellaneous Contractor	C/OPTION	Sep 96	47	47									

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996									
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3284										
COST (In Millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost		
3284, SOF Aircraft Defensive Systems		29.339	12.109	6.567	7.879	3.990	13.274	11.048	Cont.	Cont.		

A. Mission Description and Budget Item Justification

Project provides definition, development, prototyping and testing of aircraft defensive avionics systems. The project will identify hardware and software enhancements for each Special Operations Forces (SOF) aircraft that will reduce detection, vulnerability, and threat engagement from threat radars thereby increasing the overall survivability of SOF assets. This project will identify and develop enhancements to each platform to meet the projected threat. Recommendations for equipment modification or replacement will be developed by each System Program Manager based upon the results of on-going engineering assessments and user operational requirements. This project is funding: dispenser upgrade and improvement programs, threat and missile warning receiver enhancements, radio frequency (RF) jammer improvements, and development of an infrared jamming system. Project also provides systems for SOF-unique portions of the Warner Robins-Air Logistics Center Electronic Warfare Avionics Integrated Systems Facility (EWAISF). The EWAISF directly supports software development and testing. The EWAISF effort is a type of Systems Integration Laboratory designed to support the incorporation of SOF aircraft defensive systems modifications into specific SOF platforms. Sub-projects include:

- ALE-40 Chaff and Flare Dispenser. A modification of the ALE-40 chaff and flare dispenser system to the ALE-47 configuration that will enhance the aircraft's self protection capability against infrared threats by providing timing and programming capability.
- AAR-44 Missile Warning Receiver. A systems improvement modification to the AAR-44 Passive Infrared Warning Receiver to enhance operational capability and reliability against surface-to-air missiles. Program corrects critical high false alarm rate and provides Directional Infrared Countermeasures interface.

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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3284		
<ul style="list-style-type: none"><li>● Directional Infrared Countermeasures (DIRCM). A joint international cooperative United Kingdom/United States project to develop a jammer for MC-130E/H and AC-130H/U aircraft capable of countering missile threats in the band one, two and four infrared frequency spectrum.</li><li>● ALQ-172 Electronic Countermeasures. A modification of the ALQ-172 radio frequency jammer that improves capability and frequency coverage for eight AC-130H gunships.</li></ul>			
FY 1995 ACCOMPLISHMENTS:			
<ul style="list-style-type: none"><li>● (\$647K) ALE-47 Chaff and Flare Dispenser. Completed ALE-47 hot mock-up.</li><li>● (\$3,100K) AAR-44 Missile Warning Receiver. Awarded an engineering and manufacturing development contract for the AAR-44 Missile Launch Warning System.</li><li>● (\$500K) Electronic Warfare Avionics Integrated Systems Facility (EWAISF). Updated the AAR-44 Integrated Support Station in support the EWAISF efforts.</li><li>● (\$22,627) DIRCM. Completed source selection and awarded development contract. Completed manufacture of test article and began qualification testing of prime mission equipment hardware. Completed system design, preliminary design review for Group B. Completed design verification testing.</li><li>● (\$2,465K) ALQ-172 Countermeasures. Continued to test and support the ALQ-172 RF Countermeasures Low-Band Jammer for eight AC-130H aircraft.</li></ul>			

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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3284		
FY 1996 PLAN:			
<ul style="list-style-type: none"><li>• (\$8,968K) Directional Infrared Countermeasures (DIRCM). Continue the cooperative UK/US development/production program. Complete Group A preliminary design review. Complete Group A and B critical design review. Complete qualification testing of prime mission equipment hardware.</li><li>• (\$1,238K) ALQ-172 Electronic Countermeasures. Continue to test and support the ALQ-172 Radio Frequency Countermeasures Low-Band Jammer for eight AC-130H aircraft.</li><li>• (\$1,903K) Electronic Warfare Avionics Integrated Systems Facility (EWAISF). Update the ALQ-196 Integrated Support Station (ISS) in support of EWAISF laboratory efforts.</li></ul>			
FY 1997 PLAN:			
<ul style="list-style-type: none"><li>• (\$3,738K) DIRCM. Continue to support a cooperative UK/US development/production program for 59 SOF C-130 aircraft.</li><li>• (\$2,829K) EWAISF. Continue to support laboratory efforts to include update of scenario model and ALQ-162 ISS update.</li></ul>			
ACQUISITION STRATEGY:			
<ul style="list-style-type: none"><li>• AAR-44 Missile Warning Receiver. Award a sole source cost plus incentive fee Engineering and Manufacturing Development (EMD) contract followed by a firm fixed price production contract to remove, modify and replace the AAR-44 in all SOF aircraft.</li><li>• DIRCM. The Memorandum of Agreement between the UK/US established the cooperative international DIRCM program. The UK Ministry of Defence is the lead for the program. UK law applies to all acquisition actions. USSOCOM program</li></ul>			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996																									
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3284																											
<p>manager is the US deputy to the UK Directional Infrared Countermeasures program manager.</p> <ul style="list-style-type: none"> <li>● ALQ-172 Electronic Countermeasures. Issue a sole source fixed price contract to International Telephone and Telegraph for development of low band jammer and the Group B production. Issue a competitive firm fixed price contract for the Group A.</li> <li>● Electronic Warfare Avionics Integrated Systems Facility (EWAISF). Award sole source contracts to the manufacturer of the prime mission equipment required for hardware and hardware/software integration into the EWAISF.</li> </ul>																												
<p><b>B. Program Change Summary</b></p> <table border="1"> <thead> <tr> <th></th> <th>FY95</th> <th>FY96</th> <th>FY97</th> <th>Total Cost</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget</td> <td>30.359</td> <td>12.361</td> <td>6.778</td> <td>Cont.</td> </tr> <tr> <td>Appropriated Value</td> <td>31.035</td> <td>12.361</td> <td></td> <td></td> </tr> <tr> <td>Adjustments to Appropriated Value / President's Budget</td> <td>(1.696)</td> <td>(0.252)</td> <td>(.211)</td> <td></td> </tr> <tr> <td>Current Budget Submit</td> <td>29.339</td> <td>12.109</td> <td>6.567</td> <td>Cont.</td> </tr> </tbody> </table>					FY95	FY96	FY97	Total Cost	Previous President's Budget	30.359	12.361	6.778	Cont.	Appropriated Value	31.035	12.361			Adjustments to Appropriated Value / President's Budget	(1.696)	(0.252)	(.211)		Current Budget Submit	29.339	12.109	6.567	Cont.
	FY95	FY96	FY97	Total Cost																								
Previous President's Budget	30.359	12.361	6.778	Cont.																								
Appropriated Value	31.035	12.361																										
Adjustments to Appropriated Value / President's Budget	(1.696)	(0.252)	(.211)																									
Current Budget Submit	29.339	12.109	6.567	Cont.																								
<p><b>Change Summary Explanation:</b></p> <p><b>Funding:</b> FY 1995 decrease is for Congressional reduction in consulting services and for directed investment in the Small Business Innovative Research Program. FY 1996 decrease due to revised OMB economic assumptions. FY 1997 decrease due to repricing of budgets to reflect the Administration's revised economic assumptions forecast.</p> <p><b>Schedule:</b> Directional Infrared Countermeasures program engineering and manufacturing development phase has been extended from 18-22 months to accomplish all required testing. Initial Operational Capability for AC-130H slipped accordingly.</p>																												

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)					DATE		MARCH 1996					
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3284										
Technical: None.												
C. <u>Other Program Funding Summary</u>		FY95	FY96	FY97	FY98	FY99	FY00	FY01	To Complete Cont.	Total Cost Cont.		
PROC, C-130 Mods*		28.789	52.096	37.035	68.524	90.511	34.664	21.963				
*Includes C-130 Modifications sub-line item funds for ALE-47 Chaff and Flare Dispenser, DIRCM, APR-46 Improvements, ALQ-172 Radio Frequency Countermeasures Jammer, Lifeline, and AAR-44 Missile Warning Receiver.												
D. <u>Schedule Profile</u>												
Directional Infrared Countermeasures (DIRCM)												
Award EMD Contract												
CDR												
Start Formal Testing												
Production Decision												
Complete AC-130H QOT&E												
ALQ-172 Elec Countermeasures MS III												
AAR-44 Missile Warning Receiver MS III												

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / Project 3284		
A. <u>Project Cost Breakdown (\$ in thousands)</u>	<u>FY95</u>	<u>FY96</u>	<u>FY97</u>
1. AAR-44	3,100		
2. ALE-47	647		
3. ALQ-172	2,465	1,238	
4. DIRCM			
Interface Control Document Development			
Preliminary / Functional Design	19,290	3,623	
Tests	1,123	2,698	2,000
ECPs		231	377
Program Management Office	2,214	2,416	1,361
5. EWAISF	500	1,903	2,829
TOTAL:	29,339	12,109	6,567

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)										DATE		MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE					PE 1160404BB Special Operations Tactical Systems Development / Project 3284			
RDT&E, DEFENSEWIDE / 7													
B. Budget Acquisition History and Planning Information													
Performing Organizations													
Actual or Budget Value (\$ in thousands)													
Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Product Development Organizations Northrop (DIRCM) Georgia Tech (EWAISF) Anhurst (EWAISF) Cincinnati Electronics (AAR-44) Various	C/FP	Mar 95	TBD	33,715	9,634	20,413	3,668			33,715			
	SS/CPFF	Sep 94	4,393	4,393	1,990	500	1,903			4,393			
	SS/FPF	Jun 96		Cont.				2,829	Cont.	Cont.			
	SS/CPFF	Nov 94	6,733	6,733	3,633	3,100				6,733			
	Various	Various			Cont.	2,476	838	124	1,238	Cont.	Cont.		
Support and Management Organizations Booz Allen Hamilton (DIRCM) SSAI (ALQ-172) MTI (ALQ-172) ITC (ALQ-172)	C/FP	Apr 93	TBD	11,944	3,628	2,214	2,602	1,500	2,000	11,944			
	SS/CPFF	Jun 95	2,848	2,848	1,348	1,000	500			2,848			
	SS/FPF	Jul 95	382	382	124	129	129			382			
	SS/T&M	Sep 95	308	308	115	93	100			308			
Test and Evaluation Organizations AFOTEC/Other (DIRCM) USAF Flight Test Facility (ALQ-172)	PO	Dec 95	TBD	4,698	2,448		2,698	1,000	1,000	4,698			
	PO	Nov 95	3,885	3,885		1,052	385			3,885			
Government Furnished Property													
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Delivery Date		Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
ALQ-172 Group B provided by USAF													
Subtotal Product Development					17,733	24,851	5,695	4,067	Cont.	Cont.			
Subtotal Support and Management					5,215	3,436	3,331	1,500	2,000	15,482			
Subtotal Test and Evaluation					2,448	1,052	3,083	1,000	1,000	8,583			
Total Project					25,396	29,339	12,109	6,567	Cont.	Cont.			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE		MARCH 1996						
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3326								
COST (In Millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost
3326, AC-130U		2.186	6.124	14.563	6.327	1.668	1.395	1.384	6.699	353.934
<p><u>A. Mission Description and Budget Item Justification</u></p> <p>The AC-130U aircraft will be more capable and survivable than the existing AC-130A/H aircraft. The aircraft subsystems will include precision navigation, target acquisition and strike radar, fire control computers integrated on redundant MIL-STD-1553B data buses, electronic countermeasures, infrared countermeasures, aerial refueling, covert lighting, trainable weapons, all light level television, infrared sensor, and secure communications systems. These subsystems will enable the gunship to strike targets with surgical accuracy, to loiter safely in the target area for extended time periods, and to perform these tasks in night or adverse weather conditions. Every effort has been made to adapt off-the-shelf equipment. To the maximum extent possible, the subsystems in the AC-130U will be common with systems on other Air Force Special Operations Command aircraft. AC-130U software will be fixed and/or enhanced using a Software Integration Laboratory (SIL).</p> <p>FY 1995 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> <li>• (\$108K) Continued SIL software rehost.</li> <li>• (\$230K) Continued effort on technical order verification and validation.</li> <li>• (\$1,234K) Performed technical studies and analyses.</li> <li>• (\$614K) Supported Program Management Office operations</li> </ul>										

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE
MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3326
<p>FY 1996 PLAN:</p> <ul style="list-style-type: none"> <li>• (\$2,352K) Continue development of Software Integration Laboratory (SIL).</li> <li>• (\$1,372K) Continue technical studies and analysis.</li> <li>• (\$2,153K) Analysis and identification of corrections to service reports.</li> <li>• (\$247K) Continue effort on technical order verification and validation.</li> </ul>	
<p>FY 1997 PLAN:</p> <ul style="list-style-type: none"> <li>• (\$9,700K) Develop SIL enhanced infrared support capability and mission computer upgrade.</li> <li>• (\$3,300K) Develop depot-level fixtures and holding tools for delivery to Warner Robins Air Logistics Center.</li> <li>• (\$1,307K) Continue technical studies and analysis.</li> <li>• (\$256K) Continue effort on technical order verification and validation.</li> </ul>	
<p>ACQUISITION STRATEGY: Modify C-130H airframe into a side-firing configuration on a sole-source fixed price incentive development contract. Conduct a combined Qualification Test and Evaluation/Qualification Operational Test and Evaluation(QOT&amp;E) and a dedicated QOT&amp;E. The AC-130U will be logistically supported at the intermediate, organizational and depot level via interim contractor support until</p>	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		MARCH 1996
R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3326		
organic support is established. Required assets available September 1995 with initial operational capability March 1996.		
<u>B. Program Change Summary</u>		
Previous President's Budget	FY95	FY96
Appropriated Value	2.186	6.252
Adjustments to Appropriated Value / President's Budget	2.700	6.252
Current Budget Submit	(.514)	(.128)
	2.186	14.563
		353.934
Change Summary Explanation:		
<p>Funding: FY 1995 decrease is for Congressional reduction of Defensewide RDT&amp;E for travel, civilian pay and a directed Department of Energy reprogramming. FY 1995 was further decreased for Congressional reduction in consulting services. FY 1996 decrease due to revised OMB economic assumptions. FY 1997 decrease due to repricing of budgets to reflect the Administration's revised economic forecast.</p> <p>Schedule: None.</p> <p>Technical: None.</p>		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE		MARCH 1996			
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3326							
C. <u>Other Program Funding Summary</u>									
	FY95	FY96	FY97	FY98	FY99	FY00	FY01	To Complete	Total Cost
PROC, AC-130U	71.199	62.216	44.800	34.696	18.694	18.414	8.330	Cont.	Cont.
D. <u>Schedule Profile</u>									
Finish OT&E/QOT&E; Start Dedicated QOT&E									
Required Assets Available									
Initial Operational Capability									
Begin SIL infrared enhancement & mission computer upgrade									
Full Operational Capability: Mar 2001									

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / Project 3326		
A. <u>Project Cost Breakdown</u> (\$ in thousands)	<u>FY95</u>	<u>FY96</u>	<u>FY97</u>
1. Other Gov't Test (TOV&V)	230	247	256
2. SIL S/W	108	2,352	9,700
3. Depot-level fixtures and holding tools			3,300
4. Technical Studies / Analyses	1234	1,372	1,307
5. Travel	50		
6. Development of Service Reports		2,153	
7. Miscellaneous (known requirements i.e. Safety Board, Program Office Support, etc),	564		
<b>TOTAL:</b>	<u>2,186</u>	<u>6,124</u>	<u>14,563</u>

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)										DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY										R-1 ITEM NOMENCLATURE	
RDT&E, DEFENSEWIDE / 7										PE 1160404BB Special Operations Tactical Systems Development / Project 3326	
B. Budget Acquisition History and Planning Information										Actual or Budget Value (\$ in thousands)	
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program	
Product Development Organizations											
Rockwell NAA	C/FPF	Jul 87	194,589	194,589	194,589					194,589	
Rockwell Ft Test	SS/FPF			16,941	16,941					16,941	
Rockwell ECPh	SS/CPFF	Various		40,289	14,158			13,000		40,289	8,518
Loral (IBM)	SS/FPF			4,777	4,777					4,777	
General Electric	SS/FPF			1,436	1,436		4,505			1,436	
TBD (BCOs)	TBD	Various		135	135					135	
LASC	SS/FPF	Oct 94		955	955					955	
Rockwell (T-1 Training)	SS/FPF	Various		616	616					616	
Miscellaneous	Various			3,798	3,798					3,798	
Support and Management Organizations											
Air Force, AFMC ASC/IU	Various			32,188	19,079		1,372	1,307	8,702	32,308	
Test and Evaluation Organizations											
AFPTC	PO			33,968	33,968					33,968	
ITT	SS/FPF			835	835					835	
Other Gov't Test (TOVV)	PO	Oct/ea. FY		1,696	716	230	247	256	247	1,696	
RADC Testing	PO			748	748					748	
WRDC Testing	PO			224	224					224	

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)										DATE		MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE						PE 1160404BB Special Operations Tactical Systems Development / Project 3326			
RDT&E, DEFENSEWIDE / 7				Government Furnished Property									
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Delivery Date		Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Product Development Property													
Lockheed Airframe	SS/FFP				13,398					13,398			
Allison Engines	SS/FFP				2,196					2,196			
Various Avionics	MIPR				2,868					2,868			
Various Other	MIPR				413					413			
Support and Management Property													
None													
Test and Evaluation Property													
Flight Test Support Equipment					1,672					1,672			
Other Gov't Test (TOVV) Milestrip					66					66			
Subtotal Product Development					256,280	108	4,505	13,000	8,518	282,411			
Subtotal Support and Management					19,079	1,848	1,372	1,307	8,702	32,308			
Subtotal Test and Evaluation					38,229	230	247	256	253	39,215			
Total Project					313,588	2,186	6,124	14,563	17,473	353,934			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)					DATE					MARCH 1996				
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3642											
COST (In Millions)			FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost			
3642, Aircrew Training System			40.624	18.034	4.339	.243	.238	0	0	0	208.283			

A. Mission Description and Budget Item Justification

This project is developing an integrated, state-of-the-art Special Operations Forces (SOF) aircraft, ground-based Aircrew Training System (ATS) to support initial aircraft, mission, and special qualification, continuation training, upgrade training, and combat mission rehearsal requirements for MC-130E and MC-130H aircrews. The ATS requirement was driven by the lack of formal schools for the Combat Talon crew members and the absence of multi-aircraft, integrated, real-time combat mission rehearsal capability for MC-130E/H aircrews. Existing training rehearsal restrictions caused by airspace/weather, critical mission safety, and security consideration require a capability to rehearse extremely sensitive missions of the highest national priority in other than actual aircraft. Increasing operational tasking, joint maneuver training, and the extensive crew member training workload for initial, continuation, mission, special mission and upgrade training have all contributed to the need for this comprehensive training capability. Decreasing crew member experience levels in all crew positions exacerbates the need for this capability. SOF ATS provides training and fixed site aircrew integrated mission rehearsal capability in a contractor operated and maintained system. This system is composed of two weapon system trainers, a mission rehearsal device (MC-130E mission rehearsal device effort is terminated in FY 1996), part task trainers, maintenance trainers, and computer based training equipment, logistics support packages, courseware, and contractor provided instruction for all crew members of each aircraft. The system will provide a mix of academics, simulator training, and aircraft flight training to produce combat qualified crew members. This system will also provide combat mission rehearsal capability allowing MC-130E/H aircrews to rehearse highly classified, real-world missions of the highest national priority within 48 hours of tasking by National Command Authority.

## FY 1995 ACCOMPLISHMENTS:

- (\$290K) Completed Combat Talon II full course small group tryouts.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		MARCH 1996
R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3642		
<ul style="list-style-type: none"> <li>• (\$5,500K) Continued Combat Talon I Weapon System Trainer (WST) and Mission Rehearsal Device (MRD) development.</li> <li>• (\$31,500K) Continued Combat Talon II WST and MRD development.</li> <li>• (\$1,000K) Began development of Training System Support Center.</li> <li>• (\$2,034K) Supported Program Management Office.</li> <li>• (\$300K) Delivered Database Generation System.</li> </ul>		
FY 1996 PLAN:		
<ul style="list-style-type: none"> <li>• (\$11,000K) Continue Combat Talon II MRD development and complete WST acceptance.</li> <li>• (\$5,000K) Continue Talon I WST development.</li> <li>• (\$1,000K) Continue Training System Support Center development.</li> <li>• (\$1,034K) Support Program Management Office.</li> </ul>		
FY 1997 PLAN:		
<ul style="list-style-type: none"> <li>• (\$1,000K) Complete Combat Talon I WST.</li> <li>• (\$850K) Complete Combat Talon II MRD development and acceptance.</li> </ul>		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3642		
<ul style="list-style-type: none"> <li>• (\$489K) Support Program Management Office.</li> <li>• (\$2,000K) Complete Training System Support Center.</li> </ul>			
ACQUISITION STRATEGY:			
Awarded competitive contract to develop an integrated ground-based Aircrew Training System (ATS) composed of weapon system trainers (WST), mission rehearsal devices (MRD), part task trainers, and computer-based training. ATS will be contractor operated and maintained.			
B. <u>Program Change Summary</u>			
Previous President's Budget	FY95	FY96	FY97
Appropriated Value	38.441	18.410	4.478
Adjustments to Appropriated Value / President's Budget	38.615	18.410	208.815
Current Budget Submit	2.009	(.376)	(.139)
Change Summary Explanation:	40.624	18.034	4.339
Funding:			208.283
FY 1995 adjustment is for Congressional reduction in consulting services and valid cost overruns on the development contract. FY 1996 decrease for Congressional inflation adjustments and overhead/management savings. FY 1997 decrease due to repricing of budgets to reflect the Administration's revised economic assumptions forecast.			
Schedule: Schedule has been adjusted to advance the Talon I WST. Delivery of the Talon II WST slipped two quarters. The			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE		MARCH 1996									
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7				R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project 3642											
MC-130E MRD was deleted due to requirements to resource higher priority efforts. Funding in FY 1996 terminates the MC-130E MRD development.															
Technical: None.															
C. <u>Other Program Funding Summary</u>															
PROC, Aircraft Support		FY95	FY96	FY97	FY98	FY99	FY00	FY01	To Complete	Total Cost					
		3.877	2.045							63.794					
D. <u>Schedule Profile</u>															
Interim Training Sys Support Ctr Delivery															
Deliver Database Generation System															
Deliver Talon II Wpn. Sys. Trainer (WST)															
Deliver Talon I WST															
Deliver Talon II Msn Rehearsal Device															
Update/Certification of Courseware															

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / Project 3642		
		FY95	FY96
A. <u>Project Cost Breakdown</u> (\$ in thousands)			FY97
Combat Talon I			
Weapon System Trainer (WST)	5,000	4,400	1,000
Mission Rehearsal Device (MRD)	500	600	
Combat Talon II			
Curriculum	290	600	
WST	20,000	2,400	
MRD	11,500	8,000	850
Training Systems Support Center	1,000	1,000	2,000
Database Generation System	300		
Other			
Mission Support	2,034	1,034	489
TOTAL:		40,624	18,034
			4,339

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)										DATE		MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7					R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / Project 3642								
B. Budget Acquisition History and Planning Information Performing Organizations													
Actual or Budget Value (\$ in thousands)													
Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Product Development Organizations													
Loral	C/CPAF,IF	Jun 89		197,568	137,923	38,590	17,000	3,850	205	197,568			
Support and Management Organizations Air Force AFMC ASC				10,715	6,882	2,034	1,034	489	276	10,715			
Test and Evaluation Organizations													
Government Furnished Property													
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Delivery Date		Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Product Development													
Talon I GFE (no cost to project)			1988-93										
Talon II GFE (no cost to project)			1988-93										
Misc GFE (no cost to project)			1988-93										
Subtotal Product Development					137,923	38,590	17,000	3,850	205	197,568			
Subtotal Support and Management					6,882	2,034	1,034	489	276	10,715			
Subtotal Test and Evaluation													
Total Project					144,805	40,624	18,034	4,339	481	208,283			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE											MARCH 1996			
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S350														
COST (In Millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost						
S350, Special Operations Forces Planning and Rehearsal System (SOFPARS)		2.557	9.456	7.439	5.656	4.092	3.824	3.559	Cont.	Cont.						

A. Mission Description and Budget Item Justification

SOFPARS is a joint acquisition program for the United States Special Operations Command. This program is developing an automated mission planning capability to support Special Operations Forces (SOF). SOFPARS will consist of the SOF version of the Air Force Mission Support System and the SOF Portable Computer Flight Planning System. SOFPARS will be provided to Air Force Special Operations Command units and the aviation component of the United States Army Special Operations Command - the 160th Special Operations Aviation Regiment. SOFPARS will automate mission planning thus allowing SOF commanders and crews to plan and respond quickly to missions of national importance as well as day-to-day taskings. To accomplish this task, SOFPARS will provide a multi-command level planning capability at major SOF headquarters, theater headquarters, SOF Forward Operating Bases and Forward Operating Locations. SOFPARS will also provide portable subsystems and mission execution support products for use by crews deployed to operational locations. Present aviation mission planning capabilities cannot adequately support the stated mission need. Existing systems are insufficient for planning SOF operations. Specifically, existing systems lack sufficient processing speed and flexibility, storage capacity, growth potential, graphics (both on-screen and hard copy output), image processing and storage, and the ability to process combat planning folder data in a timely manner. They also lack near-real-time access to national/tactical level data bases and the capability to update data in a timely fashion, along with the means to effectively process the data during mission planning. The mobility, complexity, quantity, and lethality of enemy threats dictate automated data input and systems that can be interfaced via electronic communication systems throughout the SOF community. The SOFPARS effort meets the joint requirement to ensure interoperability and standardization of the mission planning process between SOF and the Services. Develops Aircraft / Weapons / Electronics modules for MH-60G/K/L, MH-47E/D, MH-53J, MC-130E/H, AC-130H/U, A/H-6, HC-130P/N, and CV-22.



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S350		
FY 1995 ACCOMPLISHMENTS:			
•	(\$306K) Continued Common Mapping Production System (CMPS) development.		
•	(\$1,505K) Continued development of Air Force Mission Support System (AFMSS) Block C2.0 and C2.0+ (now C2.1) software.		
•	(\$276K) Completed SOFPARS Version 1.0 software development.		
•	(\$470K) Developed Technical Orders and Technical Manuals requirements definition.		
FY 1996 PLAN:			
•	(\$720K) Continue AFMSS Aircraft/Weapons/Electronics (A/W/E) interface software module development for all SOF aircraft.		
•	(\$1,500K) Complete block C2.0 and C2.0+ (now C2.1) software development. Start development of AFMSS 3.0 software.		
•	(\$3,014K) Complete CMPS development, develop AFMSS interfaces and Portable Computer (PC) Flight Planning System (PFPS) interfaces.		
•	(\$4,222K) Begin software module enhancements to the PC PFPS to integrate and extend SOF A/W/E software modules to include interface with the AFMSS component of SOFPARS.		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		MARCH 1996
R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S350		

## FY 1997 PLAN:

- (\$2,030K) Continue Air Force Mission Support System (AFMSS) C3.0 software development.
- (\$1,500K) Continue developing AFMSS interfaces and the Portable Computer (PC) Flight Planning System (PFPS) interfaces.
- (\$3,909K) Continue PC PFPS enhancements to include aircraft/weapons/electronics interface software module development for all SOF aircraft.

## ACQUISITION STRATEGY:

Develop mission planning software to support SOF operations leveraging ongoing efforts with common PC PFPS and AFMSS requirements. Integration of PC PFPS and AFMSS to support SOF requirements maximizes use of commercial off-the-shelf software technology and components to reduce overall costs and schedule. Contract strategy combines various contracts and types to include competitively awarded cost plus and sole source cost no fee (educational institution) contracts. Maximize use of existing hardware technology procured via firm fixed price contract to take advantage of software portability and open system architecture. Focuses on aircraft / weapons / electronics interface required to initialize and upload aircraft avionics through the use of electronic data transfer devices. Uses software support facility to maintain and update software.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE		MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S350			
B. <u>Program Change Summary</u>		FY95	FY96	FY97	Total Cost
Previous President's Budget		2.087	9.653	6.678	Cont.
Appropriated Value		2.201	9.653		
Adjustments to Appropriated Value / President's Budget		.356	(.197)	.761	
Current Budget Submit		2.557	9.456	7.439	Cont.
Change Summary Explanation:					
Funding:	FY 1995 adjustment was for Congressional reduction in consulting services and an increase for Technical Orders and Technical Manual development. FY 1996 decrease is for Congressional inflation adjustments and overhead/management savings. FY 1997 adjustment is for development of critical SOF Common Module requirements and includes a decrease due to repricing of budgets to reflect the Administrations revised economic assumptions forecast.				
Schedule:	Software blocks are defined by funding and time. Cost overruns have caused blocks C2.0 to be restructured into C2.0 and C2.0+ (now C2.1) and Air Force Mission Support System C3.0 and have been deferred accordingly. SOFPARS Functional Configuration Audit/Physical Configuration Audit (FCA/PCA) was satisfied by Block C1.0 FCA/PCA due to common core baseline.				
Technical:	Mission Planning technical architecture has been expanded to include integration of requirements into the Portable Computer Flight Planning System and the Air Force Mission Support System. Expansion is to take best advantage of existing mission planning software and hardware and commercial off-the-shelf software to reduce overall cost and				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE		MARCH 1996			
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S350							
schedule.									
C. <u>Other Program Funding Summary</u>									
	FY95	FY96	FY97	FY98	FY99	FY00	FY01	To Complete	Total Cost
PROC, SOFPARS	6.490	1.090	1.876	.570	1.132	4.496	4.835	Cont.	Cont.
D. <u>Schedule Profile</u>									
Block C1.0 Functional Configuration Audit (FCA)/Physical Configuration Audit (PCA)									
SOFPARS Version 1 FCA/PCA									
Block C2.0 FCA/PCA									
Block C2.0+(now C2.1) FCA/PCA									
AFMSS 3.0 Development Contract Award									
Block C2.2 Award									
Block C2.2 FCA/PCA									

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / Project S350		
A. <u>Project Cost Breakdown (\$ in thousands)</u>		<u>FY95</u>	<u>FY96</u>
			<u>FY97</u>
1. Air Force Mission Support System Mission Planning Core		1,505	1,500
			2,030
2. Aircraft, Weapons, Electronics Interfaces and SOF Common Module/Interfaces		1,052	7,956
			5,409
TOTAL:		<u>2,557</u>	<u>9,456</u>
			<u>7,439</u>

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)										DATE		MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7					R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / Project S350								
B. Budget Acquisition History and Planning Information													
Performing Organizations													
Actual or Budget Value (\$ in thousands)													
Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Product Development Organizations Various	Various	Various		Cont.	19,760	2,391	6,326	5,475	Cont.	Cont.			
Support and Management Organizations Various	Various	Various		Cont.	5,543	166	3,130	1,964	Cont.	Cont.			
Test and Evaluation Organizations													
Government Furnished Property													
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Delivery Date		Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Subtotal Product Development					19,760	2,391	6,323	5,475	Cont.	Cont.			
Subtotal Support and Management					5,543	166	3,130	1,964	Cont.	Cont.			
Subtotal Test and Evaluation													
Total Project					25,303	2,557	9,456	7,439	Cont.	Cont.			

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Exhibit R-3

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE		MARCH 1996						
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S375								
COST (In Millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost
S375, Weapons and Support Systems Advanced Development		0	.150	1.986	2.204	1.760	3.453	2.543	Cont.	Cont.

A. Mission Description and Budget Item Justification

Special Operations Forces (SOF) often deploy as small, independent, quick reaction, foot-mobile teams independent of primary logistics support. Existing weapons and fire control are frequently too heavy to use under these conditions. This project provides for developing and testing of specialized, lightweight individual weapons, fire control and tactical surveillance equipment to meet the unique requirements of SOF. This is a continuing program. Sub-projects include:

- Battle Dress System (BDS). BDS is a multi-layer, head-to-toe protection, clothing, and load bearing system which provides protection against weather extremes, ballistic threats, chemical and biological threats, and enemy detection. BDS will also provide an adaptable load-bearing capability. Subsystems will be acquired in phases as technology matures.
- M4A1 Carbine SOF Accessories Kit. SOF variant of standard Army M4 Carbine. Allows mounting of optional accessories (up to 30 different functions/capabilities) such as laser pointer, active aiming module, and night vision/thermal imaging devices and provides fully automatic capabilities. This includes integrated night/day observation/fire control device which is an integrated day/night image intensification scope for both fire control and observation for the M4A1 Carbine.

FY 1995 ACCOMPLISHMENTS: None.



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S375		
<p><b>FY 1996 PLAN:</b></p> <ul style="list-style-type: none"> <li>• (\$150K) Battle Dress System (BDS). Initiate load bearing and body armor technology studies to identify materials and fabrics which provide measurable improvement over existing load-bearing and body armor systems.</li> </ul> <p><b>FY 1997 PLAN:</b></p> <ul style="list-style-type: none"> <li>• (\$242K) BDS. Develop and test body armor / load bearing equipment prototypes.</li> <li>• (\$1,744K) M4A1 Carbine SOF Accessories Kit. Award Integrated Night / Day Observation / Fire Control Device (INOD) development contract.</li> </ul> <p><b>ACQUISITION STRATEGY:</b></p> <ul style="list-style-type: none"> <li>• M4A1 Carbine SOF Accessories Kits. The INOD follows a streamlined acquisition strategy calling for a cost plus development contract award to a single contractor following full and open competition solicitation. The solicitation will be based upon performance specifications flowing from the system's operational requirements document. Production options will be tied to the development contract, incentivizing the contractor to meet or exceed the critical parameters of the performance specification. The system will be required to undergo a combined developmental / operational test prior to a production decision.</li> </ul>			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S375		
<p><u>B. Program Change Summary</u></p> <p>Previous President's Budget</p> <p>Appropriated Value</p> <p>Adjustments to Appropriated Value / President's Budget</p> <p>Current Budget Submit</p> <p>Change Summary Explanation:</p> <p>Funding: FY 1996 decrease for Congressional inflation adjustment, overhead/management savings, and to fund higher priority MFP-11 requirements. FY 1997 decrease due to repricing of budgets to reflect the Administration's revised economic assumptions forecast.</p> <p>Schedule: None.</p> <p>Technical: None.</p> <p><u>C. Other Program Funding Summary</u></p> <p>PROC, SOF Small Arms &amp; Spt. Equip.</p>				
	FY95	FY96	FY97	Total Cost
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE				MARCH 1996									
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7										R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S375													
D. <u>Schedule Profile</u>										FY95		FY96				FY97							
										1	2	3	4	1	2	3	4	1	2	3	4		
Battle Dress System																							
Initiate Studies																							
MS I																							
M4A1 Carbine SOF Accessories Kit																							
MS III on Scope, Suppressor, Rail																							
MS III on Reflex Scope																							
MS III Balance of Accessories (less INOD)																							
INOD Contract Award																							

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / Project S375		
A. <u>Project Cost Breakdown</u> (\$ in thousands)	<u>FY95</u>	<u>FY96</u>	<u>FY97</u>
1. M4A1 Carbine SOF Accessories Kits			
INOD Development			1,744
2. Battle Dress System		150	242
TOTAL:		<u>150</u>	<u>1,986</u>

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)										DATE	MARCH 1996
R-1 ITEM NOMENCLATURE										PE 1160404BB Special Operations Tactical Systems Development / Project S375	
B. Budget Acquisition History and Planning Information										Actual or Budget Value (\$ in thousands)	
Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program	
Product Development Organizations Soldier Systems Command, USA PM-Night Vision Electro-Optics, USA	C/CPPF MIPR	Mar 96 Var	NA NA	NA NA			150	242 1,744	7,488 2,495	7,880 4,239	
Support and Management Organizations											
Test and Evaluation Organizations											
Government Furnished Property											
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Delivery Date	Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program		
Subtotal Product Development						150	1,986	Cont.	Cont.		
Subtotal Support and Management											
Subtotal Test and Evaluation											
Total Project						150	1,986	Cont.	Cont.		

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## UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE										MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE / PROJECT NO.										Total Cost	
RDT&E, DEFENSEWIDE / 7		PE 1160404BB Special Operations Tactical Systems Development / Project S625										Cont.	
COST (In Millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost			
S625, SOF Training Systems		0	2.437	9.759	11.985	8.103	9.333	1.871	Cont.	Cont.			

A. Mission Description and Budget Item Justification

This project funds analysis, development, test, and integration of SOF aviation-related training and mission rehearsal systems and upgrades. Sub-projects include:

- AC-130U Gunship Aircrew / Maintenance Training System (GA/MTS). The GA/MTS develops an integrated, ground-based combination training and mission rehearsal system to support initial, mission, special qualification, continuation, upgrade and maintenance training for the AC-130U Gunship aircrews. The need for GA/MTS is driven by the lack of any current training or mission rehearsal capability for the aircrew and maintenance personnel. The GA/MTS will consist of two primary components. The first component, a Battle Management Center (BMC) testbed, will refine requirements for system fidelity and provide an initial operational capability training capability for the Navigator Fire Control Officer (NAV/FCO) crew stations. The second component will build a complete BMC with NAV/FCO, sensor operator and electronic warfare crew stations and a flight deck with full fidelity, six (6) degree of freedom motion simulation for the pilots and flight engineers. Additionally, the Instructor Operator Station will provide role-playing capabilities for the gunner and loadmaster. GA/MTS will be networked with other AFSOC mission rehearsal devices.
- MH-47E/MH-60K Evans & Sutherland Image Generator (ESIG) 4000. This effort integrates an image generator into the MH-47E/MH-60K training system. The ESIG 4000 will enhance the MH-47E/MH-60K combat mission simulators and fulfill the requirement for training and mission rehearsal capability.

FY 1995 ACCOMPLISHMENTS: NA.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S625		
FY 1996 PLAN:			
<ul style="list-style-type: none"><li>• (\$1,000K) AC-130U Gunship Aircrew / Maintenance Training System (GA/MTS). Begin development of Battle Management Center (BMC) testbed to refine user requirements for navigator and fire control officer workstations.</li><li>• (\$1,100K) MH-47E/MH-60K Evans &amp; Sutherland Image Generator (ESIG) 4000. Award integration contract.</li><li>• (\$337K) Program Management Office support.</li></ul>			
FY 1997 PLAN:			
<ul style="list-style-type: none"><li>• (\$7,779K) AC-130U GA/MTS. Continue development of the BMC testbed.</li><li>• (\$990K) MH-47E/MH-60K ESIG 4000. Continue integration effort.</li><li>• (\$990K) Program Management Office support.</li></ul>			
ACQUISITION STRATEGY:			
<ul style="list-style-type: none"><li>• GA/MTS. Program is currently in Phase I. The two-phase acquisition strategy will first build a BMC testbed using production AC-130U avionics, commercial image generation, and computers to refine user requirements prior to the second phase, a full and open competition to procure a complete BMC and Flight Deck Aircrew Training Device (ATD). A Milestone II/III decision is planned for 4QFY97 to support a 1QFY98 competitive contract award for the ATD.</li><li>• MH-47E/MH-60K Evans &amp; Sutherland Image Generator (ESIG) 4000. A contract will be awarded 3QTR 1996 to integrate the ESIG 4000 with the MH-47E and MH-60K combat mission simulators.</li></ul>			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE		MARCH 1996						
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S625								
B. <u>Program Change Summary</u>		FY95	FY96	FY97	Total Cost					
Previous President's Budget			2.488	7.861	Cont.					
Appropriated Value			2.488							
Adjustments to Appropriated Value / President's Budget			(.51)	1.898						
Current Budget Submit			2.437	9.759	Cont.					
Change Summary Explanation:										
Funding:		FY 1996 decrease for Congressional inflation adjustment and overhead/management savings. FY 1997 increase is to properly phase funds for program execution.								
Schedule:		None.								
Technical:		None.								
C. <u>Other Program Funding Summary</u>		FY95	FY96	FY97	FY98	FY99	FY00	FY01	To Complete	Total Cost
			21.151	1.074	.477	8.535			0	31.237
PROC, SOF Training Systems										



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996												
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S625													
D. <u>Schedule Profile</u>		FY95		FY96		FY97									
		1	2	3	4	1	2	3	4	1	2	3	4		
Begin prototyping of Battle Management Center						x									
Image Generator Integration Contract Award										x					
GA/MTS Milestone II/III										x					

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / Project S625		
A. <u>Project Cost Breakdown (\$ in thousands)</u>		<u>FY95</u>	<u>FY96</u>
1. AC-130U Aircrew Maintenance Training System			<u>FY97</u>
		1,000	7,779
2. MH-47E/MH-60K ESIG 4000 Integration		1,100	990
3. Mission Support		337	990
TOTAL:		0	2,437
			9,759

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)										DATE		MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7										R-1 ITEM NOMENCLATURE		PE 1160404BB Special Operations Tactical Systems Development / Project S625	
B. Budget Acquisition History and Planning Information Performing Organizations										Actual or Budget Value (\$ in thousands)			
Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Product Development Organizations Air Force (GAMTS) Air Force (ESIG 4000 Integration)	SS/CPAF SS/FFP	Mar 96 Apr 96					1,000 1,100	7,779 990	Cont. Cont.	Cont. Cont.			
Support and Management Organizations Air Force							337	990	Cont.	Cont.			
Test and Evaluation Organizations													
Government Furnished Property													
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Delivery Date		Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Subtotal Product Development							2,100	8,769	Cont.	Cont.			
Subtotal Support and Management							337	990	Cont.	Cont.			
Subtotal Test and Evaluation													
Total Project							2,437	9,759	Cont.	Cont.			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE										MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S700											
COST (In Millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost			
S700, Communications Advanced Development		4.138	1.457	2.648	2.064	3.421	2.487	4.113	Cont.	Cont.			

A. Mission Description and Budget Item Justification

This project provides for development and testing of selected items of specialized equipment to meet the unique requirements of Special Operations Forces (SOF). Specialized equipment will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. These operations are generally conducted in harsh environments, for unspecified periods, and in locations requiring small unit autonomy. Special Operations Forces must infiltrate by land, sea, and air to conduct unconventional warfare, direct actions, or deep reconnaissance operations in denied areas against insurgent units, terrorists, or highly sophisticated threat forces. The requirement to operate in denied areas controlled by a sophisticated threat mandates that SOF systems remain technologically superior to threat forces to ensure mission success.

USSOCOM has developed an overall strategy to ensure that Command, Control, Communications, Computers, and Intelligence (C4I) systems continue to provide SOF with the required capabilities into the 21st century. USSOCOM's C4I systems comprise an integrated network of systems providing positive command and control and timely exchange of intelligence and threat warning to all organizational echelons. The C4I systems that support this new architecture will employ the latest standards and technology by transitioning from separate systems to full integration with the infosphere. The infosphere will allow SOF elements to operate with any force combination in multiple environments. The C4I programs funded in this project are grouped by the level of organizational element they support: Operational Element (Team), Above Operational Element (Deployed), and Above Operational Element (Garrison). Sub-projects include:

## OPERATIONAL ELEMENT (TEAM)

- Multi-Band Inter/Intra Team Radio (MBITR). The MBITR provides inter-team radios for SOF components and eliminates the

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S700	

need for multiple radios currently required to support Special Tactics units performing air traffic control instructions, flight data, artillery advisories, forward air rapid refueling point operations and liaison communications with ground force commander.

- Special Mission Radio System (SMRS). SMRS is a radio system that provides SOF a lightweight, Low Probability of Intercept/Low Probability of Detection (LPI/LPD) high frequency radio with co-resident military standard Automatic Link Establishment (ALE), non-standard ALE, and internal communication security capabilities. Deployed in hostile and clandestine environments, the system consists of manpack radio and base station, and provides hardware improvements and software documentation.
- Multiband/Multimission Radio (MBMMR). A joint SOF requirement, MBMMR provides a lightweight, secure, manpackable transceiver capability replacing the AN/PRC-77, AN/PRC-85, AN/PRC-113, HST-4, and LST-5B/C. MBMMR provides VHF-FM, VHF-AM, UHF-AM, and UHF-FM satellite communications in a single radio, reducing the number of team radios carried by each team. Current deployments require teams to carry a minimum of five radios capable of operating in seven frequency bands.

ABOVE OPERATIONAL ELEMENT (DEPLOYED)

- SMRS is also planned for use at this level.
- Joint Base Station (JBS). JBS consolidates three former programs: Naval Special Warfare Task Unit Van (now called JBS Core System), Special Forces Base Station (now called JBS Variant 1), and Special Operations Communications Package (now called JBS Variant 2) into one joint program. JBS will provide SOF with continuous, reliable, long-range communications among SOF component commands while allowing for differences in missions. JBS will contain line-of-sight (LOS) and beyond-LOS radios, and associated message handling and switching equipment, providing command and control voice, imagery, data, and facsimile. JBS can be transported aboard C-130 aircraft.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		MARCH 1996
R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S700		
<ul style="list-style-type: none"> <li>• SOF Tactical Assured Connectivity Systems (SOFTACS) (formerly called Tactical C4I Mod). SOFTACS is an integrated suite of communications systems designed to support the high-capacity, digital, secure, interoperable, transmission and switching requirements of USSOCOM C4I architecture.</li> </ul>		
ABOVE OPERATIONAL ELEMENT (GARRISON)		
<ul style="list-style-type: none"> <li>• Special Mission Radio System (SMRS) is also planned for use at this level.</li> </ul>		
FY 1995 ACCOMPLISHMENTS:		
<ul style="list-style-type: none"> <li>• (\$2,175K) Joint Base Station (JBS). Performed Variant 1 engineering and manufacturing development for automation requirement and finalized selected design.</li> <li>• (\$1,963K) SMRS. Developed high frequency communications mode enhancements and Digital Message Entry Device (DMED) ruggedization. Developed concept for worldwide HF interlocking base station network. Initiated testing of high frequency HF communication mode enhancements and DMED ruggedization.</li> </ul>		
FY 1996 PLAN:		
<ul style="list-style-type: none"> <li>• (\$698K) SMRS. Continue testing of the HF communications mode enhancements and DMED ruggedization.</li> <li>• (\$167K) SOF Tactical Assured Connectivity Systems. Perform system integration, test and evaluation.</li> <li>• (\$334K) JBS. Perform Core System engineering, development, integration, and testing for technology insertion of Non-Developmental Item/Commercial Off-the-Shelf/Government Off-the-Shelf equipment.</li> </ul>		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S700		
<ul style="list-style-type: none"> <li>• (\$258K) Multiband/Multimission Radio (MBMMR). Conduct Milestone 0 review. Conduct market survey and release draft request for proposal.</li> </ul>			
FY 1997 PLAN:			
<ul style="list-style-type: none"> <li>• (\$388K) Multi-Band Inter/Intra Team Radio (MBITR). Conduct Milestone 0/I review. Conduct market survey and release draft request for proposal.</li> <li>• (\$1,157K) SMRS. Develop a conventional tactical satellite capability (i.e., satellite waveform enhancement and satellite communications networking capability).</li> <li>• (\$767K) SOF Tactical Assured Connectivity Systems. Complete system test and evaluation.</li> <li>• (\$336K) Joint Base Station. Continue Core System engineering, development, integration, and testing for technology insertion of Non-Developmental Item/Commercial Off-the-Shelf/Government Off-the-Shelf equipment.</li> </ul>			
ACQUISITION STRATEGY:			
<ul style="list-style-type: none"> <li>• Special Mission Radio System. Performance capability of the manpack and base station radios will be improved through pre-planned product improvements. Following a Milestone II decision to modify the baseline radio, engineering and manufacturing development will be accomplished, improvements will be developed and tested, and the baseline system will be enhanced to meet mission requirements.</li> </ul>			



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996		
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S700			
<u>B. Program Change Summary</u>					
Previous President's Budget		FY95	FY96	FY97	Total Cost
Appropriated Value		3.382	1.727	2.333	Cont.
Adjustments to Appropriated Value / President's Budget		3.639	1.727		
Current Budget Submit		.499	(.270)	.315	
		4.138	1.457	2.648	Cont.
Change Summary Explanation:					
Funding:	This project contains several sub-projects. FY 1995 net increase is the result of a Congressional reduction of Defensewide RDT&E for travel, civilian pay and a directed Department of Energy reprogramming, a Congressional reduction in consulting services, and a reprogramming of excess funds to terminate DE14 Joint Advanced Special Operations Radio System to the Special Mission Radio System (SMRS). FY 1996 decrease is a Congressional reduction for inflation adjustment and overhead/management savings, revised OMB economic assumptions, and a reprogramming to fund high priority D476 PSYOP Advanced Development project (Special Operations Media System B). FY 1997 net increase is a result of an increase in Multi-Band Inter/Intra Team Radio market survey and Milestone O/I preparations and a decrease due to repricing of budgets to reflect the Administration's revised economic assumptions forecast.				
Technical:	None.				
Schedule:	The Special Mission Radio System evolutionary acquisition strategy has been changed to require a Milestone II, vice IV, decision to modify the baseline radio. The FY 1995 Milestone II, previously planned as Milestone IV, has slipped four months due to increased time required for planning and program documentation.				



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996						
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S700								
<u>C. Other Program Funding Summary</u>									
PROC, Comm & Electronics	FY95	FY96	FY97	FY98	FY99	FY00	FY01	To Complete	Total Cost
	19.610	33.349	26.617	30.116	49.606	46.100	38.705	Cont.	Cont.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE												MARCH 1996											
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S700																							
D. <u>Schedule Profile</u>				FY95				FY96				FY97													
		1	2	3	4	1	2	3	4	1	2	3	4												
Multiband/Multimission Radio MS 0																									
Multi-Band Inter/Intra Team Radio MS 0/I																x									
Special Mission Radio System MS II*					x											x									
MS III																									
SOF Tactical Assured Connectivity System																									
MS I					x																				
MS II																									
MS III																									
Joint Base Station																									
MS III (Core System)																									
Variants 1 and 2 Prelim. Design Review																									
Variants 1 and 2 Critical Design Review																									
MS II* (Core System)																									
*MS II decisions will be conducted for P3I insertions as technologies mature.																									

\*MS II decisions will be conducted for P3I insertions as technologies mature.

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / Project S700		
A. <u>Project Cost Breakdown</u> (\$ in thousands)		<u>FY95</u>	<u>FY96</u>
1. Joint Base Station		2,175	334
2. Special Mission Radio System			336
Interlocking Base Station Concept Development		500	
Engineering Development Model		1,000	1,157
Development/Customer Test		463	698
3. SOF Tactical Assured Connectivity			167
4. Multi-Band Inter/Intra Team Radio			767
5. Multiband/Multimission Radio			388
			258
TOTAL:		4,138	2,648

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)										DATE		MARCH 1995	
APPROPRIATION / BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE								
RDT&E, DEFENSEWIDE / 7					PE 1160404BB Special Operations Tactical Systems Development / Project S700								
B. Budget Acquisition History and Planning Information													
Performing Organizations													
Actual or Budget Value (\$ in thousands)													
Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Product Development Organizations USSOCOM, Tampa, FL USA FM SATCOM/CECOM, Ft Mon. NJ SSDS, Englewood CO Mitre, McLean VA NAWC-AD, St Inigoes MD NSMA, Arlington, VA DISA, Reston VA	MIPR/ALLOT	Various Jun 93 Oct 93 Various Various Various			1,147		258	388					
	CPFF				5,472		167	767					
	CPFF				603								
	MIPR				5,782		256	336					
	ALLOT					2,638	698	1,157			Cont.		
ALLOT					500								
Support and Management Organizations Booz Allen Hamilton, McLean VA	CPFF	Oct 93			516		78				Cont.		
Test and Evaluation Organizations													
Government Furnished Property													
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Delivery Date		Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Subtotal Product Development					13,004	4,138	1,379	2,648			Cont.		
Subtotal Support and Management					516		78				Cont.		
Subtotal Test and Evaluation											Cont.		
Total Project					13,520	4,138	1,457	2,648			Cont.		

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Exhibit R-3

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE								
		MARCH 1996								
APPROPRIATION / BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE / PROJECT NO.								
RDT&E, DEFENSEWIDE / 7		PE 1160404BB Special Operations Tactical Systems Development / Project S800								
COST (In Millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost
S800, Special Operations Munitions Advanced Development		11.458	7.639	9.016	3.212	2.740	9.775	11.918	Cont.	Cont.

A. Mission Description and Budget Item Justification

This project provides for the acquisition of selected, specialized munitions and equipment to meet unique Special Operations Forces (SOF) requirements. This is a continuing program. Sub-projects include:

- **Ammunition Development.** Air Force Special Operations Command requires a high fragmentation round to defeat light material and personnel targets in order to conduct close air support in increasingly hostile environments while reducing Gunship exposure to anti-aircraft fire, thereby increasing survivability. Additionally, a 105mm guided projectile is required to improve first shot kill capabilities for hardened mobile and stationary targets while minimizing collateral damage. This effort will further diminish technical risk for new ammunition development.
- **Lethality Enhancements.** Project acquires a laser sensor capable to demonstrate the capability of markedly improving AC-130 Gunship first shot accuracy by measuring wind to the target in real-time and using it in the fire control solution, thereby eliminating the need to do a live fire tweak prior to engagement. Additionally, a front end analysis to develop necessary improvements to the gun suite for a 25-30 year life cycle will begin. This analysis is critical due to the current inadequacy at the 20mm system and a paradigm shift that has occurred due to necessity of missions requiring increased standoff ranges and the resulting lack of effectiveness.
- **Penetration Augmented Munition.** Presently SOF has a limited capability to significantly damage concrete structures or pylons assigned as targets. This program develops a man portable, one step setup munition system with increased penetrating capability and greater warhead explosiveness.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S800		
<ul style="list-style-type: none"><li>● Remote Activated Munitions System (RAMS). Provides a capability to remotely control detonation of demolition charges or the remote operation of other items of equipment such as beacons, laser markers, radio functions, and weapons.</li><li>● Special Operations Forces (SOF) Demolition Kit. The kit consists of inert warhead liners, shaped charges, tools, equipment, and attachment devices for constructing and emplacing a variety of demolition charges. The kit allows the SOF operator to tailor the demolition charges to the target providing greater lethality and mission flexibility.</li></ul>			
FY 1995 ACCOMPLISHMENTS:			
<ul style="list-style-type: none"><li>● (\$1,823K) Ammunition Development. Completed development and testing of an 40mm fuze for fuze retrofit. Completed modification for a hardened improved penetrator for the 105mm MK399 fuze and reported the results of foreign and domestic fuze inventory analysis.</li><li>● (\$2,210K) Lethality Enhancements. Completed modification and hardware/software prototypes for the gun suite laser sensor. Developed an analysis effort between Aeronautical Systems Center and Army Development and Engineering Center at Picatinny Arsenal to complete front end analysis for up gun and seeker guidance efforts.</li><li>● (\$5,492K) Penetration Augmented Munition. Conducted environmental testing of components, continued firing train design, and conducted system integration tests.</li><li>● (\$1,348K) RAMS. Fabricated and evaluated test hardware. Initiated technical test/user test.</li><li>● (\$585K) SOF Demolition Kit: Initiated program. Conducted initial design, fabrication, and test of inert warheads.</li></ul>			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S800		
FY 1996 PLAN:			
•	(\$735K) Ammunition Development. Transition the PGU-9A/B fuze retrofit project to sustainment. Formulate a program to develop a high fragmentation 105mm round. Complete analysis for an advanced prototype of a guided 105mm projectile and advance to a Milestone 0 decision. Review technical data package.		
•	(\$735K) Lethality Enhancements. Complete flight testing of laser sensor and advance program to engineering, manufacturing and development. Complete medium caliber analysis project.		
•	(\$2,984K) Penetration Augmented Munition (PAM). Conduct tactical systems integration tests, build and test contractor demonstration hardware, and conduct preliminary and critical design reviews.		
•	(\$2,366K) Remote Activated Munitions System (RAMS). Continue Engineering and Manufacturing Development (EMD) and complete testing. Produce technical data package for the transmitter, auxiliary power supply and Type A Receiver.		
•	(\$819K) Special Operations Forces Demolition Kit. Continue design, fabrication and testing of inert warheads.		
FY 1997 PLAN:			
•	(\$484K) Ammunition Development. Transition adaptable munitions identified through the analysis projects to full program integration for high fragmentation and guided ammunition.		
•	(\$3,572K) PAM. Complete EMD, testing, and conduct Milestone III review.		
•	(\$3,507K) RAMS. Complete technical data package for the transmitter, auxiliary power supply and Type A receiver.		



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S800		
Conduct Milestone III review for transmitter and Type A receiver. Initiate design of Type B receiver.			
<ul style="list-style-type: none"><li>• (\$1,453K) Special Operations Forces (SOF) Demolition Kit. Complete Engineering and Manufacturing Development (EMD), testing, and conduct Milestone III review.</li></ul>			
ACQUISITION STRATEGY:			
<ul style="list-style-type: none"><li>• Penetration Augmented Munition. Program managed by the Army Project Manager for Mines, Countermine and Demolitions. Competitively awarded a cost plus EMD contract. Procurement will be firm fixed price sole source with option to the development contractor.</li><li>• Remote Activated Munitions System. Developmental program managed by the Army Project Manager for Mines, Countermine and Demolitions. Design being developed by government engineering at the Army Research Laboratory.</li><li>• SOF Demolition Kit. Developmental program managed by the Army Project Manager for Mines, Countermine and Demolitions. Design being developed by government engineering at the Waterways Experimental Station and Picatinny Arsenal.</li></ul>			
B. <u>Program Change Summary</u>		FY95	FY96
Previous President's Budget		9.240	8.254
Appropriated Value		9.240	8.254
Adjustments to Appropriated Value / President's Budget		2.218	(.615)
Current Budget Submit		11.458	7.639
			9.016
			Cont.
			Cont.
			Cont.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996																															
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160404BB Special Operations Tactical Systems Development / Project S800																																	
<p><b>Change Summary Explanation:</b></p> <p><b>Funding:</b> FY 1995 and FY 1997 increase is to fully fund Penetration Augmented Munition (PAM) design and testing. FY 1996 decrease includes Congressional inflation adjustments, overhead / management savings, and revised Office of Management and Budget economic assumptions.</p> <p><b>Schedule:</b> Improved 105mm Round program slipped 1 year due to consolidation of multiple 105mm projects.</p> <p><b>Technical:</b> None.</p>																																		
<p><b>C. Other Program Funding Summary</b></p> <table border="1"> <thead> <tr> <th></th> <th>FY95</th> <th>FY96</th> <th>FY97</th> <th>FY98</th> <th>FY99</th> <th>FY00</th> <th>FY01</th> <th>To Complete</th> <th>Total Cost</th> </tr> </thead> <tbody> <tr> <td>PROC, Ordnance Acq.</td> <td>13.224</td> <td>18.689</td> <td>6.161</td> <td>13.380</td> <td>13.571</td> <td>4.646</td> <td>3.260</td> <td>Cont.</td> <td>Cont.</td> </tr> <tr> <td>PROC, Platform Gun Ammo</td> <td>40.148</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						FY95	FY96	FY97	FY98	FY99	FY00	FY01	To Complete	Total Cost	PROC, Ordnance Acq.	13.224	18.689	6.161	13.380	13.571	4.646	3.260	Cont.	Cont.	PROC, Platform Gun Ammo	40.148								
	FY95	FY96	FY97	FY98	FY99	FY00	FY01	To Complete	Total Cost																									
PROC, Ordnance Acq.	13.224	18.689	6.161	13.380	13.571	4.646	3.260	Cont.	Cont.																									
PROC, Platform Gun Ammo	40.148																																	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE												MARCH 1996											
APPROPRIATION / BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE / PROJECT NO.												PE 1160404BB Special Operations Tactical Systems Development / Project S800											
RDT&E, DEFENSEWIDE / 7																									
D. <u>Schedule Profile</u>				FY95				FY96				FY97													
Ammo Development		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4								
105 mm MS O/I																									
Lethality Enhancements																									
MS 0																									
SOF Demolition Kit																									
MS I/II																									
MS III																									
Penetration Augmented Munition																									
MS III																									
Remote Activated Munitions System																									
MS I/II																									
MS III																									

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE PE 1160404BB Special Operations Tactical Systems Development / Project S800		
A. <u>Project Cost Breakdown</u> (\$ in thousands)		FY95	FY96
1. Ammunition Development			
AC-130U Gunship Ammo Development		1,823	735
2. AC-130 Gunship Lethality Enhancements		2,210	735
4. Demolition Kit			
Engineering Development/Test/Fabricate Materials		585	819
5. Penetration Augmented Munition			
Engineering Development/Test/Fabricate Materials		5,492	2,984
6. Remote Activated Munitions System			
Engineering Development/Test/Fabricate Materials		1,348	2,366
TOTAL:		11,458	7,639
			9,016

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)										DATE	
APPROPRIATION / BUDGET ACTIVITY										MARCH 1996	
RDT&E, DEFENSEWIDE / 7											
R-1 ITEM NOMENCLATURE											
PE 1160404BB Special Operations Tactical Systems Development / Project S800											
B. Budget Acquisition History and Planning Information											
Performing Organizations											
Actual or Budget Value (\$ in thousands)											
Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program	
Product Development Organizations											
Air Force Materiel Command, LIW-A	ALLOT	various	NA	NA	4,007	2,333	1,470	484	Cont.	Cont.	
Army PM-MCD, ARDEC	ALLOT	various	NA	NA	32,266	3,224	4,195	7,639	Cont.	Cont.	
Alliant Tech Systems, MN	CPIF	Jul 88	29,945	29,945	22,877	4,201	1,974	893	0	29,945	
Support and Management Organizations											
Test and Evaluation Organizations											
AF Special Mission OT&E Center	ALLOT	Dec 94	1,500	1,500		1,500				1,500	
Government Furnished Property											
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Delivery Date	Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program		
Subtotal Product Development				59,150	9,958	7,639	9,016	Cont.	Cont.		
Subtotal Support and Management											
Subtotal Test and Evaluation					1,500					1,500	
Total Project				59,150	11,458	7,639	9,016	Cont.	Cont.		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE									MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE PE 1160405BB Special Operations Intelligence Systems Development										
COST (in millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost		
PE 1160405BB (Special Operations Intelligence Systems Development)		3.987	2.843	1.315	4.996	2.446	2.626	3.392	Cont.	Cont.		
S400, SOF Intelligence R&D		3.987	2.843	1.315	4.996	2.446	2.626	3.392	Cont.	Cont.		

A. Mission Description and Budget Item Justification

Projects provide for identification, development, testing, and integration of selected SOF intelligence equipment to eliminate deficiencies in providing timely intelligence to deployed forces.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE									
		MARCH 1996									
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160405BB Special Operations Intelligence Systems Development / Project S400									
COST (In Millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost	
S400, SOF Intelligence R&D		3.987	2.843	1.315	4.996	2.446	2.626	3.392	Cont.	Cont.	

A. Mission Description and Budget Item Justification

This project provides for the identification, development, and testing of Special Operations Forces (SOF) intelligence equipment to identify and eliminate deficiencies in providing timely intelligence to deployed forces. The following distinct sub-projects address the primary areas of intelligence dissemination, sensor systems, integrated threat warning to SOF mission platforms, and tactical exploitation of national capabilities. USSOCOM has developed an overall strategy to ensure that Command, Control, Communications, Computers, and Intelligence (C4I) systems continue to provide SOF with the required capabilities into the 21st century. USSOCOM's C4I systems comprise an integrated network of systems providing positive command and control and timely exchange of intelligence and threat warning to all organizational echelons. The C4I systems that support this new architecture will employ the latest standards and technology by transitioning from separate systems to full integration with the infosphere. The infosphere will allow SOF elements to operate with any force combination in multiple environments. The C4I programs funded in this project are grouped by the level of organizational element they support: Operational Element (Team), Above Operational Element (Deployed), and Above Operational Element (Garrison). Sub-projects include:

OPERATIONAL ELEMENT (TEAM)

- SOF Signal Intelligence Manpack System (SSMS). SSMS is part of an evolutionary Joint Threat Warning System migration being developed to meet the current and developing threat capabilities for a miniaturized system to meet the backpack mission requirement. SSMS provides an own force protection capability through a communications monitoring and direction finding capability. SSMS is a man transportable jump tested system weighing less than 20 pounds in the mobile, manpack configuration.



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160405BB Special Operations Intelligence Systems Development / Project S400		
●	<p>Multi-mission Advanced Tactical Terminal (MATT). The MATT sub-project provides near-real-time operational intelligence information from national and tactical sources directly to Special Operations Forces (SOF) aircraft, ground-based units, and eventually maritime elements. The information will provide situational awareness, threat avoidance, and target acquisition, and will support mission planning. The MATT receiver/processor is a miniaturized, UHF, multi-channel receiver. It has embedded communications security and correlation, and programmable capability, including the potential incorporation of advanced cryptographic devices and transmit capabilities, which will transform the MATT into a highly integrated, scalable C4I system.</p>		
●	<p>Joint Intelligence System Integration. Funds a series of integration efforts to incorporate various SOF intelligence systems on the respective platforms employed by each of the SOF commands. Integration efforts will permit the operation of each intelligence system from within a controlling suite installed aboard a SOF platform without any system or platform degradation. Supports the joint compatibility and interoperability strategy of USSOCOM, as well as ensuring maximum use of Joint Deployable Intelligence Support System (JDISS)-compliant, UNIX-based hardware and software.</p>		
●	<p>SILENT SHIELD. The SILENT SHIELD is part of an evolutionary Joint Threat Warning System migration being developed to support SOF-wide operations. System development emphasizes a rapid prototyping effort to develop, test and field systems that provide direct threat warning and enhanced situational awareness data to SOF aircrews at the Collateral SECRET level.</p>		
●	<p>Special Operations Forces Intelligence Vehicle (SOF IV). The SOF IV is a deployable, automated, multi-sources intelligence processing and dissemination system. The SOF IV extends the JDISS-Special Operations Command Research, Analysis and Threat Evaluation System architecture to the Joint Special Operations Task Force level permitting automated interface to all theater-level intelligence data handling systems. SOF IV provides for the receipt, processing and manipulation of near-real-time intelligence data in order to produce highly tailored, accurate and timely intelligence products to support deployed SOF. The system employs a high mobility multi-purpose wheeled vehicle configured with a rigid wall, standard integrated command post shelter to house computer servers, mass storage devices, and communications equipment, and a tent extension for the remote operation of analyst workstations. It incorporates DOD Intelligence Information System and JDISS standards and</p>		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160405BB Special Operations Intelligence Systems Development / Project S400		
products in accordance with Joint Chiefs of Staff direction.			
<ul style="list-style-type: none"><li>● Tactical Exploitation of National Capabilities (TENCAP). TENCAP is a project to introduce and integrate national systems capabilities into the SOF force structure and operations. TENCAP activities include increasing national systems awareness; demonstrating the tactical utility of national system data; testing technology and evaluating operational concepts in biennial Joint Staff Special Projects; and transitioning promising concepts and technologies into the SOF materiel inventory.</li></ul>			
ABOVE OPERATIONAL ELEMENT (DEPLOYED)			
<ul style="list-style-type: none"><li>● Multi-mission Advanced Tactical Terminal and Joint Deployable Intelligence Support System-Special Operations Command Research, Analysis, and Threat Evaluation System (JDISS-SOCRATES) are also planned for this level.</li></ul>			
ABOVE OPERATIONAL ELEMENT (GARRISON)			
<ul style="list-style-type: none"><li>● JDISS-SOCRATES. JDISS-SOCRATES provides a wide range of mission required automated intelligence and imagery support to USSOCOM, component commands and operating forces as well as USCENTCOM and components in-garrison. JDISS-SOCRATES, a Wide Area Network based multi-functional intelligence system, incorporates a variety of computers, data bases, intelligence communication systems, secure phones, facsimile equipment, imagery processing, secondary imagery dissemination and map handling equipment. JDISS-SOCRATES provides SOF with unprecedented access to both national and specially-focused intelligence products, satisfying long-standing intelligence deficiencies identified in all five regional Commander In Chief Theater Intelligence Architectures. Product improvements are focused on integration of emerging intelligence community systems, technology, and standards into the JDISS-SOCRATES architecture. Near-term improvements are focused on implementation of UNIX-based client server environment and integration of Department of Defense Intelligence Information System Management Board directed JDISS standards.</li></ul>			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		MARCH 1996
R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160405BB Special Operations Intelligence Systems Development / Project S400		
FY 1995 ACCOMPLISHMENTS:		
<ul style="list-style-type: none"> <li>• (\$117K) Joint Deployable Intelligence Support System-Special Operations Command Research, Analysis, and Threat Evaluation System (JDISS-SOCRATES). Evaluated and integrated commercial off-the-shelf and government off-the-shelf products for JDISS-SOCRATES enhancements. Investigated means to fully integrate near-real-time data feeds to support mission planning.</li> <li>• (\$2,008K) Multi-mission Advanced Tactical Terminal (MATT). Performed full operational test and evaluation of Tactical Information Broadcast System receiver module and transition to production. Continued platform integration studies on other SOF platforms. Began development of Hayfield communications security device embedment into MATT Standard Electronic Module-E.</li> <li>• (\$963K) Joint Intelligence Systems Integration. Completed Triple Receiver engineering change proposal for the SOF SIGINT Manpack System Version 2. Integrated and tested secure satellite communications for PRIVATEER aboard Patrol Coastal ships.</li> <li>• (\$627K) Tactical Exploitation of National Capabilities. Used Joint Staff Special Project 95 as a vehicle for demonstrating and assessing national technologies to SOF forces. Assessed technology for HAMLET'S FOREST, HAMLET'S TRACK, and SPINNAKER. Provided systems engineering and technical assistance support.</li> <li>• (\$272K) Special Operations Forces Intelligence Vehicle. Developed operational test and evaluation procedures.</li> </ul>		
FY 1996 PLAN:		
<ul style="list-style-type: none"> <li>• (\$305K) Joint Intelligence Systems Integration. Develop, downsize, integrate, and test a deployable electronic intelligence package. Provide a multi-scanner/modern modulation intercept capability for testing and evaluation. Continue to integrate</li> </ul>		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		MARCH 1996
R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160405BB Special Operations Intelligence Systems Development / Project S400		
<p>and test secure satellite communications for PRIVATEER aboard Patrol Coastal ships.</p> <ul style="list-style-type: none"> <li>• (\$718K) Tactical Exploitation of National Capabilities. Assess technology and operational utility of HAMLET'S FOREST project and provide systems engineering and technical assistance (SETA) support.</li> <li>• (\$97K) Joint Deployable Intelligence Support System-Special Operations Command Research, Analysis and Threat Evaluation System (JDISS-SOCRATES). Engineering development and technical integration of intelligence migration products into the JDISS-SOCRATES architecture.</li> <li>• (\$1,439K) Multi-mission Advanced Tactical Terminal (MATTT). Continue platform integration efforts and software development.</li> <li>• (\$284K) SOF SIGINT Manpack System (SSMS). Identify and capture maturing commercial and government off-the-shelf hardware and software functionalities for integration into SSMS: network interface protocol, fiber optic antenna interface, and overall reductions in size, weight, and power requirements.</li> </ul> <p>FY 1997 PLAN:</p> <ul style="list-style-type: none"> <li>• (\$831K) Tactical Exploitation of National Capabilities. Participate in the development and test of the prototype S-band Standard Electronic Module-E based transceiver card for the MATTT and the test of secondary imagery receive capability. Continue to assess technology and operational utility of HAMLET'S FOREST project and to provide SETA support.</li> <li>• (\$290K) SOF SIGINT Manpack System (SSMS). Continue off-the-shelf hardware and software functionalities for integration into SSMS: speaker/language identification, a modern modulation capability, computer assisted search and data base construction, an improved man-machine interface, and overall reductions in size, weight, and power requirements.</li> </ul>		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE																									
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		MARCH 1996																									
R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160405BB Special Operations Intelligence Systems Development / Project S400																											
<ul style="list-style-type: none"> <li>• (\$194K) SILENT SHIELD. Integrate and test platform configurations.</li> </ul>																											
ACQUISITION STRATEGY: NA																											
<p><u>B. Program Change Summary</u></p> <table> <thead> <tr> <th></th> <th>FY95</th> <th>FY96</th> <th>FY97</th> <th>Total Cost</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget</td> <td>2.932</td> <td>2.901</td> <td>3.443</td> <td>Cont.</td> </tr> <tr> <td>Appropriated Value</td> <td>2.958</td> <td>2.901</td> <td></td> <td></td> </tr> <tr> <td>Adjustments to Appropriated Value / President's Budget</td> <td>1.029</td> <td>(.058)</td> <td>(2.128)</td> <td></td> </tr> <tr> <td>Current Budget Submit</td> <td>3.987</td> <td>2.843</td> <td>1.315</td> <td>Cont.</td> </tr> </tbody> </table>				FY95	FY96	FY97	Total Cost	Previous President's Budget	2.932	2.901	3.443	Cont.	Appropriated Value	2.958	2.901			Adjustments to Appropriated Value / President's Budget	1.029	(.058)	(2.128)		Current Budget Submit	3.987	2.843	1.315	Cont.
	FY95	FY96	FY97	Total Cost																							
Previous President's Budget	2.932	2.901	3.443	Cont.																							
Appropriated Value	2.958	2.901																									
Adjustments to Appropriated Value / President's Budget	1.029	(.058)	(2.128)																								
Current Budget Submit	3.987	2.843	1.315	Cont.																							
Change Summary Explanation:																											
Funding:	FY 1995 funds were realigned to continue the development and integration of SOF SIGINT Manpack System/Multi-mission Advanced Tactical Terminal technologies. FY 1996 decrease for Congressional inflation adjustment and overhead/management savings. FY 1997 decrease is to fund higher priority MFP-11 requirements, to meet fiscal guidance, and is due to repricing of budgets to reflect the Administration's revised economic assumptions forecast.																										
Schedule:	SOF Intelligence Vehicle operational test and evaluation extended since the production contract was delayed three months. However, the period of performance did not change.																										
Technical:	None.																										

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)						DATE		MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7			R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160405BB Special Operations Intelligence Systems Development / Project S400					
<u>C. Other Program Funding Summary</u>								
FY95	FY96	FY97	FY98	FY99	FY00	FY01	To Complete	Total Cost
PROC, SOF Intel Systems	23.488	25.731	19.833	45.377	33.075	59.956	Cont.	Cont.
<u>D. Schedule Profile</u>								
JDISS-SOCRATES Version Upgrades								
Begin Development of Improved SSMS								
SOF IV OT&E								
SILENT SHIELD Integration & Test								

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE PE 1160405BB Special Operations Intelligence Systems Development / Project S400		
A. <u>Project Cost Breakdown</u> (\$ in thousands)	<u>FY95</u>	<u>FY96</u>	<u>FY97</u>
1. JDISS-SOCRATES	117	97	
2. Joint Intelligence Systems Integration	963	305	
3. Tactical Exploitation of National Capabilities	627	718	831
4. SOF SIGINT Manpack System		284	290
5. Multi-Mission Advanced Tactical Terminal	2,008	1,439	
6. SOF Intelligence Vehicle	272		
7. SILENT SHIELD			194
TOTAL:	3,987	2,843	1,315

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RDT&E PROGRAM ELEMENT / PROJECT COST BREAKDOWN (R-3)										DATE		MARCH 1996	
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7				R-1 ITEM NOMENCLATURE PE 1160405BB Special Operations Intelligence Systems Development / Project \$400									
B. Budget Acquisition History and Planning Information													
Actual or Budget Value (\$ in thousands)													
Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Product Development Organizations													
SAIC, McLean VA	C/CPFF	Various			166								
NRL, Washington DC	MIPR	Various			917								
E-Systems, Greenville TX	C/CPFF	Sep 92			3,960	539							
Delfin Systems, Santa Clara CA	C/CPFF	Aug 92			1,633	559		290					
Delfin Systems, Santa Clara CA	SS/CPFF	Jan 96						200					
USAF, SAF Washington DC	Various	Various			1,950	200	222	158					
Defense, Opnl Spt Ofc, Wash DC	Various	Various											
LORAL Fed Sys, Owego NY	SS/CPFF	Aug 94			10,450	473							
NRAD, San Diego CA	Various	Various			419	1,375	536						
NISE-E, Charleston, SC	Various	Various				217	1,379						
DESA, Kirkland AFB, NM	MIPR	Feb 95				215	190						
NSA, Washington, DC	MIPR	Dec 95				55							
NAWC-AD, St. Inigoes, MD	PA	Jul 95											
E-Systems, Greenville, TX	SS/CPFF	Oct 96				144	43	194					
Miscellaneous	Various	Various			13,181								
Support and Management Organizations													
Booz-Allen & Hamilton	CPFF	Apr 93			550	210	473	473					
Test and Evaluation Organizations													
Government Furnished Property													
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Delivery Date		Total Prior to FY95	Budget FY95	Budget FY96	Budget FY97	Budget to Complete	Total Program			
Subtotal Product Development					32,676	3,777	2,370	842					
Subtotal Support and Mgmt					550	210	473	473					
Subtotal Test and Evaluation													
Total Project					33,226	3,987	2,843	1,315					

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7		R-1 ITEM NOMENCLATURE PE 1160407BB SOF Medical Technology Development									
COST (in millions)		FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost	
PE 1160407BB (SOF Medical Technology Development)		1.663	1.814	1.887	2.035	2.087	2.139	2.192	Cont.	Cont.	
S275, SOF Medical Technology R&D		1.663	1.814	1.887	2.035	2.087	2.139	2.192	Cont.	Cont.	
<p><b>A. <u>Mission Description and Budget Item Justification</u></b></p> <p>Projects provide studies and laboratory prototypes for USSOCOM to link non-system basic research and exploratory development to SOF specific system engineering and manufacturing development and procurement. The focus is on medical technologies, centering on physiologic, psychologic and ergonomic factors affecting the ability of forces to perform their missions.</p>											

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996						
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160407BB SOF Medical Technology Development / Project S275								
COST (In Millions)	FY95	FY96	FY97	FY98	FY99	FY00	FY01	Cost to Complete	Total Cost
S275, SOF Medical Technology R&D	1.663	1.814	1.887	2.035	2.087	2.139	2.192	Cont.	Cont.

A. Mission Description and Budget Item Justification

This program provides studies and non-system exploratory advanced technology development. The focus is on medical technologies, centering on physiologic and ergonomic factors affecting the ability of Special Operations Forces (SOF) to perform their missions. Current equipment and technology does not meet force requirements. The unique nature of special operations requires unique approaches to combat casualty care, medical equipment and other life support capabilities including life support for high altitude parachuting, combat casualty swimming and other SOF unique missions. This program addresses the physiologic, psychologic, and ergonomic aspects of all operations and provides guidelines for the development of selection and conditioning criteria, thermal protection, decompression procedures, combat casualty procedures and life support systems. The program supports the development of biomedical enhancements for the unique requirements of all SOF in the conduct of their diverse missions. This effort is defined by the following seven areas of investigation:

- Combat casualty management in SOF operations will: (1) review the emergency medical equipment currently used in the SOF Community and compare this to currently available civilian technology; it will also provide field testing of emergency medical equipment in the adverse environmental conditions encountered in SOF; (2) evaluate current tactical combat casualty care doctrine to ensure consideration of the wide variety of tactical scenarios encountered and apply the latest concepts in casualty care to these circumstances; and, (3) develop CD-ROM based computer programs with voice capability to conduct medical interviews in multiple foreign languages.
- Decompression procedures for Special Operations Forces diving operations will: (1) decrease the decompression obligation in SOF diving operations through the use of surface-interval oxygen breathing; and, (2) investigate pre-oxygenation requirements for high-altitude SOF parachute operations.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160407BB SOF Medical Technology Development / Project S275	
<ul style="list-style-type: none"> <li>Exercise-related injuries will evaluate the effectiveness of applying sports medicine diagnostic, therapeutic, and rehabilitative techniques in management of the traumatic and overuse injuries commonly encountered among SOF operators.</li> <li>Inhaled gas toxicology will: (1) evaluate the feasibility of using pharmacologic intervention to reduce or eliminate the possibility of central nervous system toxicity; and, (2) study the clinical symptoms experienced when divers are exposed to an elevated partial pressure of carbon dioxide and develop a training protocol to help SOF trainees recognize the early symptoms of carbon dioxide buildup.</li> <li>Medical sustainment training techniques will: (1) examine novel ways of both providing and documenting medical sustainment training for SOF corpsmen and physicians; and, (2) develop a system for constantly upgrading the medical expertise of SOF medical personnel by incorporating new research reports and clinical information into a CD-ROM base computer system which can be used by medical personnel in isolated duty circumstances.</li> <li>Mission-related physiology will: (1) develop accurate measures to evaluate SOF mission-related performance; (2) evaluate the suitability of Photorefractive Keratectomy, a new refractive surgical procedure, for special operations personnel; (3) delineate nutritional strategies designed to help personnel apply known nutritional concepts to optimize performance in mission and training scenarios; (4) evaluate potential ergogenic agents as they apply to enhancing mission-related performance; (5) study the safety and efficacy of using caffeine to increase performance in sustained operations; (6) develop a quantitative test for night vision suitable for screening SOF candidates and study ways to enhance unaided night vision; (7) develop techniques for using oxygen to increase breathhold dive time; and, (8) study pharmacologic measures to prevent acute mountain sickness in high terrestrial SOF operations.</li> <li>Thermal protection will: (1) conduct a survey of available thermal protection garments and conduct a comparative study to determine their relative effectiveness at protecting personnel engaged in small boat operations; and, (2) evaluate the efficacy of current thermal protective measures in maintaining combat swimmer performance.</li> </ul>		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160407BB SOF Medical Technology Development / Project S275		

## FY 1995 ACCOMPLISHMENTS:

- (\$1,272K) Continued ongoing studies as follows: SOF Computer-Assisted Medical Reference System; Computer-Based SOF Corpsman Training Program; Quantification of SOF Mission-Related Performance; Excimer Laser Photorefractive Keratectomy in SOF Personnel; Exercise-Related Injury Program; Hypercarbia Recognition Training; SOF Maximum Performance Nutrition Manual; Special Operations Medical Translator; Combat Casualty Care in Special Operations; Combat Casualty Equipment Review; Surface Interval Oxygen Repetitive Dive Tables; Prophylactic Measures for Central Nervous System (CNS) Oxygen Toxicity; Night Vision Enhancement.
- (\$391K) Initiated new studies: Sustained Operations Performance Enhancement with Caffeine; Pre-Oxygenation Requirements for High Altitude Parachute Operations; Thermal Protection in SOF Small Boat Operations; Ergogenics in Special Operations; and Validation of Surface Interval Oxygen Dive Tables.

## FY 1996 PLAN:

- (\$1,350K) Continue ongoing studies as follows: SOF Computer-Assisted Medical Reference System; Computer-Based SOF Corpsman Training Program; Quantification of Mission-Related Performance; Excimer Laser Photorefractive Keratectomy in NSW Personnel; Tactical Combat Casualty Care in Special Operations; Combat Casualty Equipment Review; Air/0.7 Atmosphere Absolute Decompression; Thermal Protection in Small Boat Operations; Ergogenics (Performance Enhancing Agents) in SOF Operations; Performance Enhancement with Caffeine; Pre-Oxygenation Requirements in High Altitude Low Opening/High Altitude Parachute Operations; Night Vision Enhancement; and, Hypercarbia Recognition Training.
- (\$464K) Initiate new studies such as: Thermal Protection and Diver Performance in SOF Combat Swimmers; Laser Eye Protection in Special Operations; Reduction of Oxygen Toxicity Risk with Modified Draegar LAR V Operating Procedures; SOF Physical Fitness Guide.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	MARCH 1996																									
APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSEWIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160407BB SOF Medical Technology Development / Project S275																											
<p>FY 1997 PLAN:</p> <ul style="list-style-type: none"> <li>• (\$1,446K) Continue ongoing studies as follows: SOF Computer-Assisted Medical Reference System; Computer-Based Corpsman Training Program; Quantification of Mission-Related Performance; Combat Casualty Equipment Review; Ergogenics (Performance Enhancing Agents) in Special Operations; Laser Eye Protection in Special Operations; Thermal Protection and Diver Performance in Special Operations Forces (SOF) Combat Swimmers; Combat Casualty Care in SOF Operations; Excimer Laser Photorefractive Keratectomy in SOF Personnel; Night Vision Enhancement; Pre-Oxygenation Requirements in High Altitude Low Opening Operations; SOF Physical Fitness Guide; Air/0.7 Atmosphere Absolute Decompression; Reduction of Oxygen Toxicity Risk with Modified DRAEGER LAR V Operating Procedures.</li> <li>• (\$441K) Initiate new studies such as: Immune Function of Basic Underwater Demolition/SEAL Training; Cold Stress in Current Special Operations; Draegar LAR V Canister Limits for SEAL Delivery Vehicle (SDV) Operations; and Cold Water Immersion and SDV Performance.</li> </ul> <p>ACQUISITION STRATEGY: NA</p> <p>B. <u>Program Change Summary</u></p> <table> <thead> <tr> <th></th> <th>FY95</th> <th>FY96</th> <th>FY97</th> <th>Total Cost</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget</td> <td>1.782</td> <td>1.891</td> <td>2.377</td> <td>Cont.</td> </tr> <tr> <td>Appropriated Value</td> <td>1.798</td> <td>1.891</td> <td></td> <td></td> </tr> <tr> <td>Adjustments to Appropriated Value / President's Budget</td> <td>(.119)</td> <td>(.077)</td> <td>(.490)</td> <td></td> </tr> <tr> <td>Current Budget Submit</td> <td>1.663</td> <td>1.814</td> <td>1.887</td> <td>Cont.</td> </tr> </tbody> </table>					FY95	FY96	FY97	Total Cost	Previous President's Budget	1.782	1.891	2.377	Cont.	Appropriated Value	1.798	1.891			Adjustments to Appropriated Value / President's Budget	(.119)	(.077)	(.490)		Current Budget Submit	1.663	1.814	1.887	Cont.
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<p>Change Summary Explanation:</p> <p>Funding: FY 1995 decrease for Congressional reduction of Defensewide RDT&amp;E for travel, civilian pay and a directed Department of Energy reprogramming, and assessments to execute mandated programs. The FY 1996 decrease for Congressional inflation adjustments and overhead/management savings. The FY 1997 decrease is to fund higher priority MFP-11 requirements, to meet fiscal guidance, and due to revised OMB economic assumptions to support the Bosnia reprogramming.</p> <p>Schedule: None.</p> <p>Technical: None.</p> <p>C. <u>Other Program Funding Summary</u> None.</p> <p>D. <u>Schedule Profile</u> NA.</p>			



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